

JSC "ALT University named after. Mukhamedzhan Tynyshtayev"



I APPROVE
by the decision of the Ukzjaliznytsia ALT dated
«25» 04 2024 (Protocol No.8)
President-Rector
Amirgalieva S.N.



EDUCATIONAL PROGRAM

Name of the educational program: 6B07337 – Construction of bridges, tunnels and subways

Level of preparation: bachelor's degree

Direction of training: 6B073 – Architecture and construction

Educational program group: B126 – Transport construction

Date of registration in the Register: 31.05.2021

Registration number: 6B07300166

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**1 INFORMATION ABOUT THE REVIEW, APPROVAL AND APPROVAL OF THE PROGRAM,
DEVELOPERS, EXPERTS AND REVIEWERS**

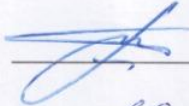
1 DEVELOPED:

Doctor of Technical Sciences,
Professor



Khasenov.S.S.

Ph. D, Associate professor ALT



Bondar I.S.

Doctor of Technical Sciences,
Professor



Makhmetova N.M.

Ph.D., professor ALT
(position)



Kvashnin.M.Ya.

T.s.m., assistant



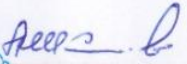
Konysbay .A.D.

student of the MTM-21-1group
(position)



Kanat A.B.

T.s.d., JSC «KazDorNII»



Shalkarov A.A.

Director LLP «GEO TRACK»



Nusupov D.K.

2 EXPERTS:

Deputy Director of the branch
JSC " NC " KTZ "Specialized
Bridge Detachment"



Klanov E.SH.

Chief Engineer of the Almaty track
distance,PCH-46



Abdullaev D.H.

3 RECENSEE:

KazNITU named after K.I.Satpayev,
Ph.D., senior lecturer of the Department
of "SiSM"



Kaipova A.A.


Head of the Technical Department of
NGS-7



Ashimov Sh.K..


4 REVIEWED AND RECOMME:

Meeting of the AC (Chair of the SI
Department)
Protocol №, «2»
23.04.2024.


(Signature of the head of the
department)

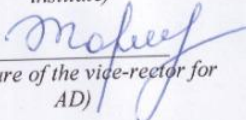
Kulmanov K.S.
(FULL NAME)

Meeting COC-UMB
Protocol №, «7a»
23.04.2024.


(signed by the director of the
institute)

Abdreshov Sh.A.
(FULL NAME)

Meeting UMS
Protocol №, «4b»
29.04.2024.


(signature of the vice-rector for
AD)

Zharmagambetova M.S.
(FULL NAME)

5 APPROVED by the decision of the Academic Council of 25 April 2024 № 8

6 INTRODUCED 24.04.2024

2. REGULATORY REFERENCES

The educational program was developed on the basis of the following regulatory legal acts and professional standards:

1. Law of the Republic of Kazakhstan "On Education" dated July 27, 2007 No. 319-III (with amendments and additions as of March 27, 2023).
2. National Qualifications Framework, approved by the protocol of March 16, 2016 by the Republican Tripartite Commission on Social Partnership and Regulation of Social and Labor Relations.
3. Sectoral qualifications framework for the field of "Education", approved by the Protocol of the meeting of the sectoral commission of the Ministry of Education and Science of the Republic of Kazakhstan on social partnership and regulation of social and labor relations in the field of education and science dated November 27, 2019 No. 3.
4. State Compulsory Standard of Higher Education (Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated February 20, 2023 No. 66).
5. Qualification reference book of positions of managers, specialists and other employees, approved by order of the Minister of Labor and Social Protection of the Population of the Republic of Kazakhstan dated August 12, 2022 No. 309.
6. Rules for organizing the educational process using credit technology of education in higher and (or) postgraduate education organizations, approved by Order of the Minister of Education and Science of the Republic of Kazakhstan No. 152 of 20.04.2011 (with additions and amendments dated 04.04.2023 No. 145).
7. Classifier of areas of training of personnel with higher and postgraduate education, approved by order of the Minister of Education and Science of the Republic of Kazakhstan dated October 13, 2018 No. 569 (with amendments and additions as of June 5, 2020).
8. The algorithm for the inclusion and exclusion of educational programs in the Register of educational programs of higher and postgraduate education, approved by the Order of the Minister of Education and Science of the Republic of Kazakhstan dated December 4, 2018 No. 665 (with additions and amendments as of December 23, 2020 No. 536).
9. RI-ALT-33 "Regulations on the procedure for developing an educational program for higher and postgraduate education."
10. Professional standard: "Not provided", NCE RK "Atameken", approved by order No. 256 dated 20.12.2019.
11. Atlas of new professions: "Innovation Manager in Construction". <https://www.enbek.kz/atlas/profession/358>

3. Passport of the educational program

No	Field name	Note
1	Registration number	6B07300206
2	Code and classification of the field of education	6B07 Engineering, manufacturing and construction industries
3	Code and classification of training areas	6B073 Architecture and construction
4	Code and group of educational programs	B126 – Transport construction
5	Name of the educational program	6B07337 – Construction of bridges, tunnels and subways
6	Type of OP	New
7	The purpose of the OP	Training of competitive specialists with the necessary theoretical knowledge and practical skills in the field of design, construction and operation of surface and underground transport infrastructure.
8	ISCED level	6 - Bachelor's degree
9	Level according to NRC	6 - Bachelor's degree
10	Level according to ORK	6 - Bachelor's degree
11	Distinctive features of the OP	No
	Partner university (SOP)	
	Partner University (DDOP)	
12	Form of study	Full-time
13	Language of instruction	Kazakh, Russian
14	Volume of loans	240
15	Awarded academic degree	Bachelor of Engineering and Technology in the educational program "6B07321 - Construction of Bridges, Tunnels and Subways"
16	Availability of an appendix to the license for the direction of personnel training	KZ12LAA00025205 (010)
17	Availability of accreditation of the educational institution	Yes
	Name of the accreditation body	Independent Kazakhstan Agency for Quality Assurance in Education and Science of the Republic of Kazakhstan
	Validity of accreditation	5 years 28.05.2022-12.05.2027

4. Competency model of a graduate

Objectives of the educational program:

1. Formation of an individual capable of self-improvement and professional growth with diverse social, humanitarian, natural scientific, special and core knowledge and interests.
2. Formation of the ability to critically rethink accumulated experience, change, if necessary, the profile of one's professional activity, awareness of the social significance of one's future profession, and possession of high motivation to perform professional activity.
3. Developing the ability to: find a compromise between various requirements (cost, quality, safety and deadlines) in long-term and short-term planning and make optimal decisions in the field of design, construction and operation of transport facilities; carry out work in research organizations under the guidance of leading specialists; possess a culture of thinking.
4. Development of the ability to: generalize, analyze and perceive information; set goals and choose ways to achieve them.
5. Assistance in developing the graduate's readiness to: perform calculation and design work; develop design and technical documentation; develop methodological materials, proposals and activities for the design, construction, operation and modernization of transport buildings and structures.
6. Formation of graduates' readiness to conduct technical and economic analysis, substantiation of decisions taken and implemented in the field of design, construction, operation and modernization of transport buildings and structures; application of results in practice, desire for self-development and improvement of their qualifications and skills.
7. Promoting the development of graduates' readiness for the economical and safe use of natural resources, energy and materials in the design, construction, operation and modernization of transport buildings and structures.

Learning outcomes:

RO1 - Develop ideological, civic and professional positions based on knowledge of social and humanitarian disciplines, moral values, healthy lifestyle, ability for interpersonal social and professional communication in the state, Russian and foreign languages.

PO2 - Apply information and communication technologies, computer modeling, artificial intelligence and the basics of electronics in digital diagnostics of surface and underground transport infrastructure.

PO3 - Use knowledge of physics, mathematics, theoretical and engineering mechanics when studying core disciplines and solving applied problems based on scientific research methods in the field of professional activity.

PO4 - Select methods and techniques of labor protection, environmental safety, analytical thinking on economic and socio-humanitarian issues, anti-corruption culture and access to sound management decisions using Power BI.

PO5 - Assess the reliability and durability of transport structures based on the principles and patterns of engineering geology and geodesy, geoinformatics, soil mechanics, and foundation engineering in the field of professional activity.

PO6 - Formulate logistical planning of transport infrastructure, special operating rules based on the principles of resource conservation in the transport industry and methods of time resource management.

PO7 - Justify design solutions for transport structures using modern building materials and effective calculation schemes for load-bearing structures when designing transport infrastructure facilities.

PO8 - Demonstrate practical knowledge in choosing methods for calculating the structures of bridges and pipes, tunnels and subways to determine their reliability and load-bearing capacity.

PO9 - Classify the range of modern specialized construction machines and equipment to determine the optimal degree of mechanization and mechanical equipment of production processes.

PO10 - Justify methods of planning and organizing the construction of bridges, tunnels and subways using complex mechanization, automation and robotization of technological operations to improve the processes of constructing surface and underground transport infrastructure.

PO11-Organize the use of rational methods of production processes for the efficient performance of various types of work during the maintenance, repair and reconstruction of surface and underground transport infrastructure.

PO12 - Develop projects for the construction of bridges, pipes, tunnels and subway stations with rational parameters of supporting structures that ensure the required degree of stability, durability, reliability and cost-effectiveness.

Field of professional activity: Rail and road transport: design, construction, maintenance and repair of bridges, tunnels and subways.

Objects of professional activity:

- local executive authorities in the field of railway and road transport and their regional structures;
- organizations and enterprises of the transport industry in the field of design, construction, maintenance and repair of bridges and tunnels of the main railway network, subways and access railways, and highways of industrial enterprises;
- organizations and enterprises in the field of manufacturing building materials and structures for transport and communications facilities.

Types of professional activity:

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

Functions of professional activity:

1) Organization of the production of building materials and structures for transport and communications facilities; organization of the design, construction, maintenance and repair of bridges, tunnels and subways; use of standard methods for calculating the reliability of structures of bridges, tunnels and subways;

2) Management of production processes, analysis of the results of production activities; management of work on the implementation of design and construction work, technical maintenance and repair of bridges, tunnels and subways; technical diagnostics of bridges, tunnels and subways, use of measuring equipment of bridge testing laboratories; analysis and assessment of production and non-production costs or resources for high-quality design, construction, technical maintenance and repair of bridges, tunnels and subways;

3) Development of new technologies, development of design and technological documentation using computer technologies; calculation of strength and stability under various types of loading of bridges, tunnels and subways, development of projects for new and reconstruction (modernization) of existing railway and road bridges and tunnels; selection of building materials for the manufacture of bridge, tunnel and subway structures, justification of technical solutions; development of technical specifications and technical conditions for projects for new and reconstruction (modernization) of existing railway and road bridges and tunnels, structures of bridges, tunnels and subways, technological processes for technical maintenance and repair of bridges, tunnels and subways, means of technical diagnostics of bridges, tunnels and subways using modern information technologies and computer programs; design of new structures

of bridges, tunnels and subways that meet the latest achievements of science and technology, safety requirements.

List of specialist positions:Head of Capital Construction Department, Head of Production (Technical, Production-Technical) Department, Site (Workshop) Head, Head of Material and Technical Supply Department, Head of Occupational Health and Safety Department, Head of Normative Research Labor Laboratory, Head of Tool Department, Head of Production Laboratory (Production Control), Head of Quality Control Department, Head of Bridge Testing Laboratory, Bridge Master, Tunnel Master, Construction Master, Work Producer (Foreman), Industrial Training Master, Foreman for Current Maintenance and Repair of Artificial Structures, Inspector of Artificial Structures, Project Manager, Project Manager, Lead Engineer, Design Engineer, Process Engineer (Technologist), Repair Engineer, Engineer for Inventory of Buildings and Structures, Metrology Engineer, Labor Organization Engineer, Labor Standards Engineer, Occupational Health and Safety Engineer, Environmental Protection Engineer (Ecologist), Laboratory Engineer, Engineer, Chief Specialist, Leading Specialist, Specialist, Design Technician, Site Technician, Process Technician, Technician for Inventory of Buildings and Structures, Technician in metrology, labor technician, technician, laboratory technician, laboratory assistant.

Professional certificates received upon completion of training:Repairman of artificial structures, cladding worker.

Requirements for previous level of education:general secondary, technical and vocational, post-secondary, higher education (bachelor's degree).

During the training process, students undergo various types of professional practice:

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

Educational practice(geodetic)

The organization of educational practice is aimed at familiarizing bachelors with the areas of professional activity and training profiles, with the ability to geodetic survey of the area, direct and reverse traverse, leveling survey, reference to benchmarks, taking out points and elevation marks from the map, solving typical engineering and geodetic problems, as well as a visit to the department branch based at Saulet SKB LLC. The form of control is the defense of the report.

Industrial practice 1.

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

Pre-graduation/industrial practice 2.

The purpose of the practice for bachelors is to ensure the relationship between the theoretical knowledge obtained during the mastering of the selected educational program and practical activities. The objectives of this practice are to consolidate and deepen the theoretical knowledge obtained by students during the training process, collect information for writing a final qualifying work, study advanced experience at the enterprise, as well as gain experience in independent research work, mastering various methods of scientific work. It is carried out in practice bases at enterprises according to this educational program. The form of control is the defense of the report.

Final certification

The objectives of the thesis are to identify the degree of assimilation of the content of the educational program by the bachelor, to check his/her readiness for independent work in the direction of the educational program, to consolidate and deepen practical work skills. A comprehensive exam is also provided.

5. MATRIX OF CORRELATION OF LEARNING RESULTS IN THE EDUCATIONAL PROGRAM WITH ACADEMIC DISCIPLINES/MODULES

No.	Name of the discipline	Number of credits	Matrix of correlation of learning outcomes according to the educational program with academic disciplines												
			RO1	PO2	PO3	PO4	RO5	RO6	RO7	RO8	RO9	RO10	RO11	RO12	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
General Education Competencies Module															
1	History of Kazakhstan	5	+												
2	Philosophy	5	+												
3	Physical culture	8	+												
Language competence module															
4	Foreign language	10		+		+									
5	Kazakh (Russian) language	10		+		+									
Module of socio-political competencies															
6	Sociology	2	+			+									
7	Cultural studies	2	+			+									
8	Political science	2	+			+									
9	Psychology	2	+			+									
Information Technology and Artificial Intelligence Module															
10	Information and communication technologies	5		+											
11	Ecology and life safety	5				+									
12	Methods of scientific research	5	+			+									
13	Economy and business activity	5	+			+									
14	Fundamentals of Law and Anti-Corruption Culture	5	+			+									
15	Engineering Mathematics 1	6				+									
	Engineering Mathematics 2	6				+									
16	Applied Physics	4				+									
	Building Physics	5				+									
	Building materials	6				+		+							
	Engineering geodesy	6						+							
	Building structures	6								+					
	Construction production technology	6								+					
	Labor protection	6					+								
	Computer and engineering modeling	6		+											
	Fundamentals of Artificial Intelligence	3		+											
23	Educational practice (godetic)														
24	Theoretical mechanics					+									
	Fundamentals of classical mechanics	6				+									
26	Strength of materials	6				+									
27	Applied Mechanics					+									
28	Structural mechanics					+									
29	Mechanics of structural strength	6				+									
32	Fundamentals of designing transport structures									+					
	Descriptive Geometry and Engineering Graphics	6								+					
33	Geology, soil mechanics, foundations and foundations	6						+							

JSG "ALT University named after Muhametzhhan Tynshpayey

SYLLABUS

The form of education: full-time

Direction or training:
6B073 - Architecture and construction

APPROVED
By decision of the Academic Council of ALT
dated February 29, 2024, Protocol No. 6

Duration of study: 4 years

B J26 - Transport construction

Re-approved due to transition
to the status of "ALT University named after
Muhametzhhan Tynshpayey"
dated April 25, 2024, Protocol No. 8
* Chairman of the Academic Council
S.K. Amirgalieva

Name of educational program:
8B07z37 - Construction of bridges, structures and subways

Admission: 2024 year

Degree: Bachelor of engineering and architecture

№	Discipline code	Name of disciplines	Total labor intensity		Control form, semester		Volume of teaching load, contact hours							Distribution by semester									Required to the department																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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8. CATALOG OF UNIVERSITY COMPONENT DISCIPLINES

EDUCATIONAL PROGRAM 6B07321 – Construction of bridges, tunnels and subways

Education level: bachelor's degree

Duration of study: 4 years

Year of admission: 2023 y.

Cycle	Component	Name of the discipline	Total labor intensity		Semester	Learning Outcomes	Brief description of the discipline	Prerequisites	Post-requisites
			academic hours	academic credits					
1	2	3	4	5	6	7	8	9	10
BD	VK	Engineering Mathematics 1	180	6	1	PO3	The aim of the course is to master the mathematical apparatus for solving theoretical and applied problems of a specific profile, to gain an understanding of mathematical modeling and interpretation of the obtained solutions. The sections of the course include elements of linear algebra and analytical geometry, an introduction to mathematical analysis, and differential calculus of functions of one and several variables.	School curriculum in mathematics	Engineering Mathematics 2, Information and Communication Technologies.
BD	VK	Engineering Mathematics 2	180	6	2	PO3	The aim of the course is to develop students' mathematical knowledge and skills necessary for studying related natural science disciplines, professional cycle disciplines, and skills in mathematical modeling and research in professional activities. The course sections include integral calculus of functions of one and several variables, ordinary differential equations, and series theory. Particular attention is paid to the application of mathematical methods to solve engineering problems.	Engineering Mathematics 1, Applied Physics	Building materials
BD	VK	Applied Physics	120	4	1	PO3	The aim of the course is to develop skills in using fundamental laws, theories of classical and modern physics, as well as methods of physical research, thinking, scientific worldview, in independent cognitive activity, to be able to model physical situations using computer technologies and ideas about the modern natural scientific picture of the world.	School program in physics	Building Physics
		Building Physics	150	5	2	PO3	The aim of the course is to study the simplest, as well as the most general laws of natural phenomena, the properties and structure of matter, the laws of its motion. The course reflects kinematics, the basic equations of dynamics, the equations of	Applied Physics	Building materials, Engineering geodesy

BD	VK						motion, the limits of applicability of classical mechanics, stable time, the moment of time and energy, static physics and thermodynamics, electricity and magnetism. Students will be able to apply physical laws and principles to practical problems related to several scientific fields.		
BD	VK	Building materials	180	6	3	PO3.7	To apply modern building materials, demonstrate the main quality indicators, modern methods of production of building materials for the transport industry, the main patterns and dependencies on physical and mechanical properties, production technology and formation conditions, finishing methods, mastering the technological processes of construction production, manufacturing of building materials, products and structures on erected artificial structures.	Engineering Mathematics1, 2, Construction Physics, Applied Physics	Engineering geodesy
BD	VK	Engineering geodesy	180	6	4	RO5	It develops professional competencies that determine the readiness and ability of a bachelor to use basic knowledge in the field of geodesy, allows for geodetic measurements related to solving typical construction problems, detailed breakdown of structures, control of the geometric shapes of the structure being erected, perform executive surveys of the results of individual stages of construction and installation work, and provides skills in using basic geodetic instruments for specific production conditions.	Engineering Mathematics1, 2, Construction Physics, Applied Physics	Design of bridge crossings and tunnel intersections
BD	VK	Building structures	180	6	6	RO7	Forms basic knowledge of the formation, calculation and design of load-bearing structures, the ability to correctly select materials, section shapes, design schemes for structures based on the purpose and goals of operation, develop design solutions for newly erected or reinforced transport structures, master the skills of calculating structural elements according to limit states, ensuring compliance with the required indicators of reliability, economy, and efficiency.	Engineering Mathematics1, 2, Construction Physics, Applied Physics	Maintenance and repair of bridges and pipes
BD	VK	Construction production technology	180	6	4	RO7	The aim of the course is to familiarize students with the basic principles of technological design of construction works. The course studies the composition and purpose of technological maps for performing various types of work, including the technology of excavation work and pile installation, laying concrete mix, installation of building structures, stone masonry, installation of finishing coatings and other aspects of construction.	Engineering Mathematics1, 2, Construction Physics, Applied Physics,	Building structures
		Labor protection	180	6	7	PO4	The course examines the main hazardous and harmful production factors affecting workers in automobile and rail transport during the operation and repair of rolling stock,	Ecology and life safety	Pre-graduation practice, Final certification

BD	VK						advanced methods and technical solutions to reduce industrial injuries, improve working conditions and organize workplace safety, methods of organizing and managing labor protection, fire and electrical safety, and the main measures in organizing workplaces.		
BD	VK	Computer and engineering modeling	180	6	1	PO2	The aim of the course is to provide an opportunity to master the basic images of spatial forms on a plane and to teach how to work in modern modeling systems in order to develop innovative computer models. It studies spatial representation and imagination, constructive-geometric thinking based on graphic models of spatial forms and practical skills in constructing computer models, applying them to solving real problems.	School curriculum in mathematics	Bridges and pipes, Transport tunnels
BD	VK	Fundamentals of Artificial Intelligence	90	3	5	PO2	The course introduces students to the basic concepts, methods and applications of artificial intelligence. The aim of the course is to provide students with basic knowledge about the capabilities and applications of artificial intelligence in the modern world and their significance for various fields of activity.	Information and communication technologies.	Transport tunnels, Maintenance and repair of tunnels and subways
BD	VK	Educational practice (geodetic)	60	2	4	PO3,5,7	Educational practice (geodetic) The organization of educational practice is aimed at familiarizing bachelors with areas of professional activity and training profiles, with the ability to geodetic survey of the area, forward and reverse traverse, leveling survey, reference to benchmarks, marking out points and elevation marks from a map, solving typical engineering and geodetic problems.	Engineering geodesy	Design of bridges and pipes, tunnels and subway stations
PD	VK	Bridges and pipes	180	6	5	PO8,12	The aim of the course is to develop practical knowledge on the application of methods for calculating load-bearing structures in the design of bridges and pipes, methods for determining the most rationally justified functional requirements for bridges and pipes. The course studies the standardized parameters for calculating their bearing capacity and reliability, the main physical and mechanical properties and characteristics, the features of the work of the materials used in various engineering-geological, hydrological and climatic conditions of their	Construction production technology	Transport tunnels, Transport tunnels, Design of bridge crossings and tunnel crossings
PD	VK	Transport tunnels	180	6	6	RO8	The aim of the course is to develop theoretical and practical knowledge, skills in the basics of transport tunnel classification, rational methods and ways of their design and construction, selection of dimensions, technological and design solutions for the construction of transport tunnels. The	Bridges and pipes	Maintenance and repair of bridges and pipes,

							course studies the arrangement of internal equipment of railway and road tunnels, technologies for constructing tunnels in the most efficient and economically sound ways, calculation methods and design of transport tunnels.		Industrial practice 2
PD	VK	Subways	180	6	6	RO8	The objective of the course is to form loads on the supporting structures of subway transition and station tunnels. The course studies the features of geodetic works for the construction of subways, the physical and mechanical essence of the internal processes occurring in the soil massif during the opening of the workings, about ventilation and lighting, power supply, signaling, water supply, sewerage and heating of subways to perform calculations of their strength andThe objective of the course is to form loads on the supporting structures of subway transition and station tunnels. The course studies the features of geodetic works for the construction of subways, the physical and mechanical essence of the internal processes occurring in the soil massif during the opening of the workings, about ventilation and lighting, power supply, signaling, water supply, sewerage and heating of subways to perform calculations of their strength andThe objective of the course is to form loads on the supporting structures of subway transition and station tunnels. The course studies the features of geodetic works for the construction of subways, the physical and mechanical nature of the internal processes occurring in the soil massif during the opening of the workings, ventilation and lighting, power supply, signaling, water supply, sewerage and heating of subways to perform calculations of their strength and bearing capacity.	Bridges and pipes	Maintenance and repair of tunnels and subways, Industrial practice 2
PD	VK	Design of bridge crossings and tunnel intersections	180	6	6	PO8,12	The aim of the course is to develop theoretical and practical knowledge on the application of methods and techniques for selecting a bridge crossing location to create a plan and longitudinal profile of a railway and a road when crossing river borders with a bridge crossing. The course is studied taking into account the climatic, topographic, engineering-geological, hydrological and environmental conditions of the area of construction of a transport highway with minimal costs of material and technical resources.	Building structures, Bridges and pipes	Maintenance and repair of tunnels and subways, Industrial practice 2
PD	VK	Maintenance and repair of bridges and pipes	180	6	7	RO8	The aim of the course is to develop skills in routine maintenance, major repairs, strengthening and reconstruction of bridges and pipes, using the most rational methods and techniques for technical maintenance of bridge spans and	Design of bridge crossings and tunnel	Maintenance and repair of tunnels and subways,

							pipes. The course studies the definition of defects and damage to bridge structures, assessment of the load-bearing capacity and classification of bridges, efficient use of machines and mechanisms when performing various types of repairs, and development of work production projects. The aim of the course is to develop skills in routine maintenance, major repairs, strengthening and reconstruction of bridges and pipes, using the most rational methods and techniques for technical maintenance of bridge spans and pipes. The course studies the definition of defects and damage to bridge structures, assessment of the load-bearing capacity and classification of bridges, efficient use of machines and mechanisms when performing various types of repairs, and development of work production projects.	intersections	Industrial practice 2
PD	VK	Maintenance and repair of tunnels and subways	270	9	8	RO8,11	The aim of the course is to develop skills in technical maintenance and repair of tunnels and subways using rational and effective methods of major repairs, reinforcement and reconstruction of operated tunnels and subways. The course studies the choice of modern types of mechanisms and equipment used in current and major repairs and reconstruction of underground structures, mastery of methods for restoring tunnels and subways and organizing normal operation.	Design of bridges and tunnel crossings, Maintenance and repair of bridges and pipes	FINAL CERTIFICATION, Industrial practice 2
PD	VK	Industrial practice 1	90	3	6	PO3,5,7,8	The main objectives of industrial practice are: consolidation of theoretical knowledge and practical skills in the selected educational program in industrial conditions, acquisition of experience in organizational work, obtaining a working specialty, formation of practical skills and competencies in the process of mastering the bachelor's program. It is carried out in practice bases at enterprises according to this educational program.	Bridges and pipes	Maintenance and repair of bridges and pipes, Maintenance and repair of tunnels and subways
PD	VK	Industrial practice 2	120	4	9	PO3,5,7,8	The purpose of the practice for bachelors is to ensure the relationship between the theoretical knowledge obtained during the mastering of the selected educational program and practical activities. The objectives of this practice are to consolidate and deepen the theoretical knowledge obtained by students during the training process, collect information for writing a final qualifying work, study best practices at the enterprise, as well as gain experience in independent research work, mastering various methods of scientific work. It is	Maintenance and repair of tunnels and subways	Final certification

							carried out in practice bases at enterprises according to this educational program.		
MSW		FINAL CERTIFICATI ON	240	8		RO1-12	The objectives of the thesis are to identify the degree of assimilation of the content of the educational program by the bachelor, to check his/her readiness for independent work in the direction of the educational program, to consolidate and deepen practical work skills. A comprehensive exam is also provided.	Maintenanc e and repair of tunnels and subways	Admission to Master's Degree

9. CATALOGUE OF DISCIPLINES OF AN ELECTRIC COMPONENT

EDUCATIONAL PROGRAM

6B07337 – Construction of bridges, tunnels and subways

Education level: bachelor's degree

Duration of study: 4 years

Year of admission: 2024 y.

Cycle	Component	Name of the discipline	Total labor intensity		Semester	Learning Outcomes	Brief description of the discipline	Prerequisites	Post-requisites
			academic hours	academic credits					
1	2	3	4	5	6	7	8	9	10
OOD	KV	Ecology and life safety	150	5	3	PO4	The discipline studies the main approaches to solving environmental problems, ensuring safe life, sources and types of pollutants in construction production, methods for reducing emissions of harmful substances into the environment, natural and man-made emergencies, their causes, methods of prevention and protection, carrying out environmental, rescue and other emergency work, rules of conduct for people in extreme conditions.	Biology, self-knowledge (school course)	Occupational safety, Final certification
		Methods of scientific research				PO3	The discipline provides knowledge and ideas about the content of scientific activity, its methods and forms of knowledge. The theoretical and applied knowledge obtained by students on the methods of scientific research of problems in the studied area instills in future specialists the skills of cognitive activity in the field of science.	Module of socio-political knowledge (Sociology, Political Science, Cultural Studies, Psychology)	Final certification
		Economics and business activities				PO1.4	The discipline studies the activities of enterprises in various types of markets, the model of equilibrium and functioning of the market, state regulation of prices and tariffs. It examines the concept of entrepreneurship and the limits of its legal regulation, the conditions for the development of entrepreneurship, organizational and legal forms of doing business, as well as issues of business planning, entrepreneurial secrecy, and social responsibility of entrepreneurship.	History of Kazakhstan, Engineering Mathematics 1, Engineering Mathematics 2	Management economics

		Fundamentals of Law and Anti-Corruption Culture				PO1.4	The discipline presents fundamental concepts of law, constitutional structures of state power of the Republic of Kazakhstan, rights and freedoms of citizens enshrined in the Constitution, the mechanism and protection of legitimate interests of a person in case of their violation. The discipline forms in students an increase in public and individual legal awareness and legal culture, as well as a system of knowledge and civic position on combating corruption as an antisocial phenomenon.	History of Kazakhstan, Fundamentals of Law (school course)	Philosophy
BD	KV	Theoretical mechanics	180	6	3	PO3	The aim of the discipline is to develop logical thinking and a scientific foundation for engineering education. It studies the laws of motion and equilibrium of material bodies, the construction of mathematical models of the behavior of mechanical systems using theorems of mechanics, the use of methods for studying the equilibrium and motion of mechanical systems to solve technical problems.	Engineering Mathematics 1, 2, Construction Physics, Applied Physics	Strength of materials, applied mechanics
		Fundamentals of Artificial Intelligence				PO3	The course introduces students to the basic concepts, methods and applications of artificial intelligence. The aim of the course is to provide students with basic knowledge about the capabilities and applications of artificial intelligence in the modern world and their significance for various fields of activity.	Engineering Mathematics 1, 2, Construction Physics, Applied Physics	Strength of materials, applied mechanics
BD	KV	Strength of materials	180	6	4	PO3	The aim of the discipline is to develop fundamental knowledge in the field of calculations of structural elements for strength, rigidity and stability. Studies the calculation and experimental foundations and practical methods of calculating structures under the condition of reliability, durability, cost-effectiveness, taking into account the mechanical properties of structural materials and the ability to design according to strength criteria, correctly assessing the ultimate state, carry out verification and design calculations, using modern educational and information technologies.	Building Physics, Applied Physics, Theoretical Mechanics	Structural mechanics, Mechanics of structural strength
		Applied Mechanics				PO3	The aim of the discipline is to form a theoretical basis for students to understand the methods of calculating the strength, rigidity and stability of machine and equipment elements, ensuring their reliability and efficiency. It studies the deformations and strength conditions of bodies and provides the general principles necessary to ensure the reliability of a structure for any purpose, the correct	Building Physics, Applied Physics, Theoretical Mechanics	Structural mechanics, Mechanics of structural strength

							calculation of the dimensions of structural elements and parts.		
BD	KV	Structural mechanics	180	6	5	PO3	The aim of the discipline is to correctly select design forms and materials that provide the required reliability, safety and efficiency indicators for both operated and created structures and buildings. Studies the basic methods for calculating the strength, rigidity and stability of structural elements and buildings, and to calculate the reliability and durability of load-bearing elements of transport structures and buildings, taking into account the mechanical properties of the materials used that change over time.	Theoretical Mechanics, Strength of Materials, Applied Mechanics	Machines and equipment in bridge and tunnel construction, Technology of construction of bridges, tunnels and subways
		Mechanics of structural strength				PO3	The aim of the discipline is to develop skills in the field of work analysis and calculation of structures made of various materials under various impacts using a modern computing apparatus. It studies the features of the laws of distribution of stresses and deformations in structural elements under various conditions of external load, principles and methods of static and dynamic calculation of engineering structures for strength, rigidity, stability.	Theoretical Mechanics, Strength of Materials, Applied Mechanics	Machines and equipment in bridge and tunnel construction, Technology of construction of bridges, tunnels and subways
BD	KV	Fundamentals of designing transport structures	180	6	2	RO7	The aim of the course is to develop knowledge and skills in using automated design tools for artificial structures using the AutoCAD software package. It studies the basic elements of designing communication routes, highways, the basic elements of airfields and airports, bridges and interchanges, and teaches how to work in text editors and spreadsheets to implement rational principles for designing transport structures.	Engineering Mathematics 1,	Construction production technology Construction materials
		Descriptive Geometry and Engineering Graphics				RO7	The aim of the discipline is to form a theoretical basis for students to perform and read technical drawings, sketch parts and master various methods of depicting geometric figures, develop spatial constructive-geometric thinking, the ability to imagine and understand spatial bodies and their relationships. They study methods of constructing various geometric spatial forms, methods and rules for creating accurate and understandable graphic projects.	Engineering Mathematics 1,	Construction production technology Construction materials
BD	KV	Geology, soil mechanics, foundations	180	6	3	RO5	The aim of the course is to study the basic principles and methods of engineering geology and hydrogeology, necessary for assessing geological and hydrogeological	Engineering Mathematics 1, 2,	Building materials

		and foundations					conditions during the design, construction and operation of engineering structures. The course covers the basic concepts and principles of engineering geology and hydrogeology, assessment of the physical and mechanical properties of soils and rocks, the influence of geological factors on the construction and operation of engineering structures.	Construction Physics, Applied Physics	
		Engineering Geology and Hydrogeology				RO5	The aim of the course is to study the basic principles and methods of engineering geology and hydrogeology, necessary for assessing geological and hydrogeological conditions during the design, construction and operation of engineering structures. The course covers the basic concepts and principles of engineering geology and hydrogeology, assessment of the physical and mechanical properties of soils and rocks, the influence of geological factors on the construction and operation of engineering structures.	Engineering Mathematics 1, 2, Construction Physics, Applied Physics	Building materials
BD	KV	Machines and equipment in bridge and tunnel construction	180	6	6	RO9,10,11	The aim of the course is to develop knowledge in the field of mechanization and automation of repair, construction and current maintenance of railway tracks using track machines and mechanisms. The course studies the types, technical and dimensional parameters, as well as the design of track machines and mechanisms. It also studies the causes of machine failures in operation and the methods and ways to eliminate them.	Theoretical Mechanics, Strength of Materials, Applied Mechanics	Technology of construction of bridges, tunnels and subways
		Machines and mechanisms in bridge-tunnel construction				RO9,10,11	The aim of the discipline is to know the purpose, design, area of rational application of construction machines in the construction of bridges and tunnels, modern methods of designing complex mechanization of road construction works. Within the framework of the course, students will master the skills of organizing technological processes of production and operation of ground transport and technological machines and complexes for the purpose of determining the optimal degree of mechanization and mechanical equipment of production processes in the construction complex.	Theoretical Mechanics, Strength of Materials, Applied Mechanics	Technology of construction of bridges, tunnels and subways
BD	KV	Managerial economics	90	3	6	RO6	Formation of a conceptual apparatus and development of economic analysis skills using modern models and laws of economic science, consideration of economic problems and tasks facing the head of the company. Studying this discipline will allow students to obtain and develop knowledge in the field of analytical research of economic, technological and technical parameters of the enterprise, and	Economics and Entrepreneurship, Fundamentals of Financial	Technology of construction of bridges, tunnels and subways, Final certification

							will also allow them to master the skills of applying special methods of economic justification of management decisions and assessment of their consequences.	Literacy, Critical Thinking	
		Time management				RO6	The discipline studies a system of methods, tools and approaches aimed at effective time management in order to achieve set goals. The course is designed to improve skills in organizing and optimizing the use of working time, increasing work productivity, reducing stress, planning, delegating, using tools and technologies, and knowing your time and energy rhythms in order to use your time effectively.	Economics and Entrepreneurship, Fundamentals of Financial Literacy, Critical Thinking	Technology of construction of bridges, tunnels and subways, Final certification
BD	KV	Basics of financial literacy	90	3	5	PO4	Formation of general functional economic and financial literacy, mastery of methods and tools of economic and financial calculations for solving practical problems	Economics and business activities	Financial Literacy Basics, Critical Thinking
		Critical Thinking				RO6	The discipline studies the forms and methods of rational knowledge, the creation of a general understanding of the logical methods and approaches used in the field of professional activity, and the formation of practical skills of rational and effective thinking.	Economics and business activities	Financial Literacy Basics, Critical Thinking
PD	KV	Technology of construction of bridges, tunnels and subways	180	6	7	RO10,11	The aim of the course is to develop basic knowledge and skills in the construction of reinforced concrete and metal bridges, the construction of foundations and supports for bridges and overpasses. The course studies the methods of manufacturing technology for elements of precast reinforced concrete structures of transport structures and metal bridges and overpasses, methods for constructing railway, road and urban tunnels, underground and overground metro stations, station and transfer tunnels using complex mechanization of automated and robotic technological operations.	Construction technology, Geology, soil mechanics, foundations and foundations,	Design of bridges and pipes and subway stations, Organization and planning of construction of transport facilities, Organization of transport construction
		Technology of construction of ground and underground				RO10,11	The aim of the course is to develop theoretical and practical knowledge in the technology of construction of surface and underground transport infrastructure. The course studies the development of process maps for the production of	Construction technology, Geology, soil	Design of bridges and pipes, tunnels and subway

		transport infrastructure					earthworks using scrapers, bulldozers, graders, single-bucket and multi-bucket excavators, the construction of transport, running and station tunnels using mining and shield methods, the production of drilling and blasting operations, technologies for the production of concrete, reinforced concrete and installation work for the purpose of improving the technologies for the construction of surface and underground transport infrastructure.	mechanics, foundations and foundations,	stations, Organization and planning of construction of transport facilities, Organization of transport construction
PD	KV	Design of bridges and pipes, tunnels and subway stations	180	6	7	PO2.7	The aim of the course is to develop basic knowledge and practical skills in the application of effective design methods and techniques. The course examines the possibility of using methods of mathematical modeling of transport structures that take into account the influence of static and dynamic alternating loads, climatic and man-made impacts in complex hydrological and engineering-geological conditions, allowing the use of the most effective characteristics of the supporting structures of the structure and ensuring the required reliability, durability, stability and cost-effectiveness of the structure.	Construction technology, Geology, soil mechanics, foundations and foundations,	Organization and planning of construction of transport facilities, Organization of transport construction
		Design of surface and underground transport infrastructure				PO2.7	The aim of the course is to develop skills in calculating and designing railway and road bridges and pipes, underground and overground metro stations, and transfer tunnels. The course examines issues of designing surface and underground transport infrastructure facilities in complex hydrological and engineering-geological conditions, under seismic and man-made impacts on bridge crossings, tunnel and station complexes, implementing the most rational design solutions for artificial structures, and internal arrangements of tunnel and station complexes.	Construction technology, Geology, soil mechanics, foundations and foundations,	Organization and planning of construction of transport facilities, Organization of transport construction
PD	KV	Organization and planning of construction of transport facilities	180	6	8	RO10,11	The aim of the course is to develop knowledge about the principles of organization, planning of construction and applying them in practice. The course studies the stages of preparation for the production of construction works, organizational and technological design documentation, the composition and content of the construction organization project (POS) and the work production project (WP), the development of network schedules and calendar plans, the criteria for choosing the optimal organizational and	Construction production technology, Design of bridges and pipes, tunnels and metro stations	Final certification

							technological options for solutions for the construction of transport facilities.		
		Organization of transport construction				RO10,11	The purpose of the discipline is to develop students' professional skills in the basic principles and methods of organizing road works, organizational and technical preparation and scheduling of road works, as well as to obtain knowledge in the field of production and economic activities of enterprises when choosing rational options for organizational and planning decisions that ensure increased economic efficiency of production. Studies the principles and methods of project management, time control and planning, resource allocation	Construction production technology, Design of bridges and pipes, tunnels and metro stations	Final certification

10. EXPERT OPINIONS

ЭКСПЕРТНОЕ ЗАКЛЮЧЕНИЕ

на образовательную программу 6B07337 – Строительство мостов, тоннелей и метрополитенов, группы образовательных программ B126 – Транспортное строительство по направлению подготовки 6B073 – Архитектура и строительство

Разработанная и утвержденная в 2024 году и представленная на экспертизу образовательная программа 6B07337 – Строительство мостов, тоннелей и метрополитенов состоит из следующих разделов:

1. Сведения о рассмотрении, согласовании и утверждении программы, разработчиках, экспертах и рецензентах.
2. Нормативные ссылки.
4. Компетентностная модель выпускника.
5. Матрица соотнесения результатов обучения по образовательной программе с учебными дисциплинами/модулями.
6. Структура образовательной программы бакалавриата.
7. Рабочий учебный план на весь срок обучения.
8. Каталоги дисциплин вузовского компонента и компонента по выбору.

Целью образовательной программы является подготовка конкурентоспособных и высококвалифицированных специалистов, реализующих в профессиональной деятельности аналитические и инженерно-технические способности, основанные на современных и ресурсосберегающих технологиях проектирования, эксплуатации, технического обслуживания и ремонта мостов, тоннелей и метрополитенов. Для достижения указанной цели сформулированы соответствующие задачи образовательной программы.

В образовательной программе 6B07337 – Строительство мостов, тоннелей и метрополитенов приведены результаты обучения (РО) бакалавра техники и технологий, которые требуются в мосто-тоннельном производстве.

Область, объекты, виды и функции профессиональной деятельности бакалавра техники и технологий по образовательной программе 6B07337 – Строительство мостов, тоннелей и метрополитенов охарактеризованы кратко, четко и ясно.

Учебный план переработан в 2024 году с добавлением соответствующих модулей в логической последовательности освоения циклов общеобразовательных, базовых и профилирующих дисциплин обязательного и вузовского компонентов и компонента по выбору студента.

Каталоги дисциплин вузовского компонента и компонента по выбору содержат краткие описания всех общеобразовательных, базовых и профилирующих дисциплин учебного плана с указанием пререквизитов, постреквизитов и результатов обучения.

В целом образовательная программа 6B07337 – Строительство мостов, тоннелей и метрополитенов, группы образовательных программ B126 – Транспортное строительство по направлению подготовки 6B073 – Архитектура и строительство, разработана на достаточно квалифицированном уровне, соответствует требованиям ГОСО и рекомендуется к применению высшими техническими учебными заведениями при реализации учебного процесса.

Эксперт,
Директор ТОО GeoTrack



Нусупов Д.К.

11. REVIEWER'S CONCLUSION

РЕЦЕНЗИЯ

на образовательную программу 6В07337 – Строительство мостов, тоннелей и метрополитенов, группы образовательных программ В126 – Транспортное строительство по направлению подготовки 6В073 – Архитектура и строительство

Представленная на рецензирование образовательная программа 6В07337 – Строительство мостов, тоннелей и метрополитенов разработана и утверждена в 2024 году.

Образовательная программа 6В07337 – Строительство мостов, тоннелей и метрополитенов предназначена для подготовки специалистов с высшим образованием в области организации, планирования и управления мостотоннельного производства.

В образовательной программе 6В07337 – Строительство мостов, тоннелей и метрополитенов приведены: сведения о рассмотрении, согласовании и утверждении программы, разработчиках, экспертах и рецензентах; нормативные ссылки; компетентностная модель выпускника; матрица соотнесения результатов обучения по образовательной программе с учебными дисциплинами/модулями; структура образовательной программы бакалавриата; рабочий учебный план на весь срок обучения; каталоги дисциплин вузовского компонента и компонента по выбору

Результаты обучения студентов по образовательной программе 6В07337 – Строительство мостов, тоннелей и метрополитенов характеризуются достаточным объемом необходимых задач, которые решаются выпускником в ходе своей профессиональной деятельности в конкретных производственных условиях.

Оценочные, конструктивные, информационно-технологические виды и функции профессиональной деятельности выпускника образовательной программы 6В07337 – Строительство мостов, тоннелей и метрополитенов охарактеризованы в достаточной степени.

В образовательной программе 6В07337 – Строительство мостов, тоннелей и метрополитенов приведены виды и содержание практик, цель итоговой аттестации выпускника.

Матрица соотнесения результатов обучения (РО) составлена с учетом соответствующих модулей и направленности дисциплин учебного плана.

Трудоемкость в академических кредитах и часах согласно требованиям ГОСО приведена в структурной части и учебном плане образовательной программы 6В07337 – Строительство мостов, тоннелей и метрополитенов.

Представленная на экспертизу образовательная программа 6В07337 – Строительство мостов, тоннелей и метрополитенов, группы образовательных программ В126 – Транспортное строительство по направлению подготовки 6В073 – Архитектура и строительство, разработана на достаточно высоком профессиональном уровне, соответствует требованиям ГОСО и рекомендуется для реализации высшими техническими учебными заведениями в учебном процессе.

**Рецензент, Начальник отдела
по содержанию зданий и инженерных
систем НЖС-7**



Айдаралиев А.С

12. REVIEW AND APPROVAL PROTOCOLS

АЛТ УНИВЕРСИТЕТ ИМЕНИ МУХАМЕДЖАНА ТЫНЫШПАЕВА

ПРОТОКОЛ № 2

Заседания

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

г. Алматы

«23» 04 2024 года

Председатель: Кулманов К.С.

Секретарь: Аблязова А.М.

Присутствовали: члены Академического комитета, ведущие ППС кафедры

Представители с производства: В.с.н, д.т.н., профессор АО «КазДорНИИ»

Шалкарар А.А, д.т.н, директор ТОО «GEO TRACK» Нусупов Д.К.

Обучающиеся: магистранты 4-го курса, группа МТМ-21-1к Канат А.Б.

ПОВЕСТКА ДНЯ:

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

По первому вопросу

ВЫСТУПИЛ(а):

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

Компетентностная модель выпускника включает в себя следующие части:

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

ВЫСТУПИЛ:

Член кафедры Квашнин М.Я, который предложил утвердить модель.

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

ПОСТАНОВИЛИ:

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

По второму вопросу

ВЫСТУПИЛ(а): зав кафедрой Кулманов К.С. с предложением заслушать представителей работодателей и обучающихся по включению новых дисциплин в КЭД и РУП приема 2024г.

ВЫСТУПИЛ: представитель работодателей д.т.н., директор ТОО «GEO TRACK» Нусупов Д.К.

Организации заинтересованы в специалистах, имеющих хороший уровень подготовки и знаний в области строительство мостов, тоннелей и метрополитенов. Вносим предложения о внесении в РУП следующих востребованных дисциплин: Компьютерное и инженерное моделирование, Основы проектирования транспортных сооружений, Метрополитены.

ВЫСТУПИЛ: обучающийся 4-курса, группы МТМ Канат А.Б.

Считаем необходимым включить в РУП следующие дисциплины: Основы искусственного интеллекта, Транспортные тоннели.

ПОСТАНОВИЛИ:

1. Информацию принять к сведению;
2. Учесть предложения и рекомендации работодателей и обучающихся;
3. Рассмотреть включение в РУП следующие дисциплины: Компьютерное и инженерное моделирование, Основы искусственного интеллекта, Транспортные тоннели.

Председатель:

Секретарь:



Кулманов К.С.

Аблязова А.М.

АЛТ УНИВЕРСИТЕТ ИМЕНИ МУХАМЕДЖАНА ТЫНЫШПАЕВА
ПРОТОКОЛ №7а (перед утверждением ОП на УС)

Заседания КОК УМБ института «Транспортная инженерия»

г. Алматы

«23» 04 2024 года

Председатель: Абдрешов Ш.А.

Секретарь: Карibaева Г.Б.

Присутствовали: члены КОК УМБ, члены Академического комитета

Представители с производства: д.т.н., профессор АО «КазДорНИИ» Шалкарров А.А., директор ТОО «GEO TRACK» Нусупов Д.К.

Обучающиеся: Студент 4-курса группы МТМ-21-1 Канат А.Б.

ПОВЕСТКА ДНЯ:

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

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

На кафедре «Строительная инженерия» было проведено заседание с привлечением представителей работодателей и обучающихся по обсуждению структуры и содержанию образовательной программы 6В07337 – Строительство мостов, тоннелей и метрополитенов.

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

ПОСТАНОВИЛИ:

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

Председатель КОК УМБ

Абдрешов Ш.А.

Секретарь

Карibaева Г.Б.

