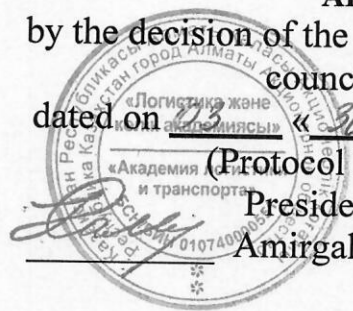


Joint Stock Company "Academy of Logistics and Transport"



APPROVED  
by the decision of the academic  
council of ALT  
dated on 23 «30», 2023  
(Protocol No. 13)  
President-Rector  
Amirgalieva S.N.



### EDUCATIONAL PROGRAM

Name: "6B11236- OCCUPATIONAL SAFETY AND ENVIRONMENTAL PROTECTION IN TRANSPORT "

Level of training: bachelor's degree

Code and classification of areas of training: 6B112 Occupational health and safety at work

Code and group of educational programs: B094- -Sanitary and preventive measures

Date of registration in the Register: 04/25/2022

Registration number: 6B11200048

Almaty, 2023


## CONTENT

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

**1 DEVELOPED:**


*Assistant Professor, Ph.D.*

  
\_\_\_\_\_ Tsygankov S.G.

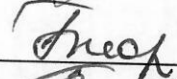
*Associate Professor, PhD*

  
\_\_\_\_\_ Abdreshov Sh.A.


*Associate Professor, PhD*

  
\_\_\_\_\_ Imankaliyeva A.K.

*Assistant Professor, Ph.D.*

  
\_\_\_\_\_ Baikenzheeva A.S.


*Assistant Professor, Ph.D.*

  
\_\_\_\_\_ Bimagambetova L.N.


*Senior Lecturer*

  
\_\_\_\_\_ Torgayev A.A.

*Senior Lecturer*

  
\_\_\_\_\_ Kurmashev B.B.

*2nd year student, group PDM-21-1*

  
\_\_\_\_\_ Orazbai N.A.

**2 EXPERTS:**

*Chairman of the Board of Directors of Almaty Ventilation Plant LLP*

  
\_\_\_\_\_ Bakkulov M.S.

*Dean of the Faculty of Geography and Environmental Sciences, Candidate of Sciences in Geography, Associate Professor, KazNU them. Al-Farabi*

  
\_\_\_\_\_ Aktymbayeva A.S.

**3 THE REVIEWER:**

*Head of the Department Agricultural machinery and mechanical engineering, Candidate of Technical Sciences, Associate Professor, KazNARU*

  
\_\_\_\_\_ Zhumagulov Zh.B.

**4 REVIEWED AND RECOMMENDED:**

*«Meeting of the AC (department) "Vehicles and Life Safety"»*

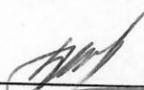
*Protocol № 6, « 23 » 02 2023y.*


*«Meeting of the Commission for quality assurance - educational and methodical bureau», «TI»*

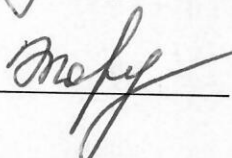
*Protocol № 7, « 15 » 03 2023y.*

*Meeting of the Educational and Methodological Council*

*Protocol № 14, « 24 » 04 2023y.*

  
\_\_\_\_\_ Shingisov B.T.

  
\_\_\_\_\_ Chigambaev T.O.

  
\_\_\_\_\_ Zharmagambetova M.S.

**5 APPROVED** by the decision of the Academic Council dated « 30 » 03 2023г. № 13

**6 UPDATED** 04.08.2023

## 2. REGULATORY REFERENCES

The educational program is developed on the basis of the following 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. The National Qualifications Framework, approved by the protocol dated March 16, 2016, by the Republican Tripartite Commission on Social Partnership and Regulation of Social and Labor Relations.

3. Sectoral qualifications framework for the sphere "Education", approved by the Minutes of the meeting of the sectoral commission of the Ministry of Education and Science of the Republic of Kazakhstan on social partnership and regulation of social and labor relations in the field of education and science dated November 27, 2019 No. 3.

4. State obligatory standard of higher and postgraduate education (Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated February 20, 2023 No. 66).

5. Qualification directory of positions of managers, specialists and other employees, approved by order of the Minister of Labor and Social Protection of the Population of the Republic of Kazakhstan dated August 12, 2022 No. 309.

6. Rules for organizing the educational process on credit technology of education in organizations of higher and (or) postgraduate education, approved by Order of the Minister of the Ministry of Education and Science of the Republic of Kazakhstan No. 152 dated April 20, 2011 (with additions and changes dated April 04, 2023 No. 145).

7. Classifier of areas for training 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 (as amended and supplemented as of June 05, 2020).

8. Algorithm for 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 changes 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: "Labor protection", NCE RK "Atameken", approved by order No. 255 of 12/18/2019.

### 3. PASSPORT OF THE EDUCATIONAL PROGRAM

<b>№</b>	<b>Field name</b>	<b>Note</b>
1	Registration number	6B06200035
2	Code and classification of the field of education	6B11 –Services
3	Code and classification of areas of study	6B112 – Hygiene and labor protection at work
4	Code and group of educational programs	B-094 - Sanitary and preventive measures
5	Name of the educational program	6B11236 - Occupational safety and environmental protection in transport
6	Type of educational program	New
7	Purpose of the educational program	Training of highly qualified specialists in the field of labor protection and environmental protection, who have the necessary knowledge, skills and abilities to create, implement an occupational health and safety management system and advanced environmental protection methods to reduce injuries and improve public health.
8	Level according to the international standard classification of education	6
9	The level of the NRK	6
10	ORC Level	6
11	Distinctive features of the educational program	No
	University partner ( SOP )	-
	University partner ( DDOP )	-
12	Form of study	Full-time, full-time with transfer to distance learning
13	Language of instruction	Kazakh, Russian
14	Volume of loans	240
15	Awarded Academic Degree	Bachelor of Services in Educational Program 6B11236 - Occupational Safety and Environmental Protection in Transport.
16	Availability of an application to the license for the direction of personnel training	
17	Availability of accreditation of the educational program	
	Name of the accreditation body	
	Validity of accreditation	

#### 4. COMPETENCE MODEL OF A GRADUATE

Objectives of the educational program:

1. Formation of a person capable of self-improvement and professional growth with versatile humanitarian and natural science knowledge and interests.
2. Formation of the ability to critically rethink the accumulated experience, improve the profile of their professional activities, awareness of the social significance of their future profession, possessing high motivation to perform professional activities.
3. Formation of 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 labor protection and environmental protection; own a culture of thinking,
4. Formation of the ability to generalize, analyze, perceive information, set a goal and choose ways to achieve it.
5. Assistance in the formation of a graduate's readiness: to develop documentation for the implementation of measures that provide highly productive and safe working conditions; perform work to ensure the environmental safety of enterprises; develop environmental documentation and methodological materials, proposals and measures to protect the environment.
6. Formation of the readiness of graduates to conduct a technical and economic analysis, substantiate the decisions made and implemented in the field of labor protection and environmental protection; applying the results in practice, striving for self-development, improving one's qualifications and skills
7. Formation of graduates' readiness for the rational use of natural resources, energy and materials in the production and economic activities of enterprises.
8. Formation of graduates' readiness for research activities, the use of modern software applications in the field of ecology and labor protection, as well as for processing the results of experimental and theoretical studies.

##### **Learning outcomes:**

LO1 - Argues rational, environmentally friendly and safe processes using knowledge of physics, chemistry, mathematical apparatus and information and communication technologies in professional activities using scientific research methods

LO2 - Demonstrate the application of the acquired knowledge to find a compromise between various requirements in the field of labor protection and environmental safety, taking into account the requirements of the cost and quality of measures for making optimal and organizational technical and economic decisions in the field of labor protection and environmental protection and rational use of natural resources.

LO3 - Apply methods of prevention and protection against hazards in the workplace and indicate methods for ensuring fire, radiation, and electrical safety in the enterprise, using advanced engineering knowledge.

LO 4 - Demonstrate knowledge of the basics of radiation, chemical and biological safety, and the ability to act competently in man-made accidents, fires and other emergencies, including those of a natural nature, correctly apply personal protective equipment, provide first aid and take the necessary measures to protect the population .

LO 5 - Use modern instruments and equipment when measuring and monitoring the environment

LO 6 - Determine and identify the causes of environmental pollution using knowledge in the field of chemistry, geoecology and the interaction of geosystems, fuel chemistry, methods of operating technological equipment and transport power plants

LO 7 - Apply professional and personal qualities, have analysis methods and leadership skills to create sanitary and hygienic and safe working conditions by competently applying legislation and maintaining technical and technological equipment that ensures industrial safety.

LO 8 - Apply the methods of technical and economic analysis and competently carry out engineering and management decisions by summarizing information when setting a goal and choosing rational ways to improve working conditions and environmental safety.

LO 9 - Express your thoughts competently using knowledge of social and ethical values, the role of spiritual processes in society, interpersonal and legal interests of the parties and protection of rights for effective teamwork and discussion of issues in an international environment in Kazakh, Russian and English.

LO 10 - Develop and draw up environmental reporting and documentation for projects of MPE, MPD, EIA, waste passports and reclamation of disturbed lands

**Area of professional activity:** all sectors of the economy, including industry, transport, agriculture and utilities, production and consumption, government agencies in the field of labor protection, environmental services.

**Objects of professional activity:**

Enterprises and organizations, mainly in the transport industry, influencing man-made, social, natural systems and their components; water, land, biotic and other resources; factors determining labor safety and environmental protection; engaged in the development, implementation and operation of technological systems and equipment for environmental protection, which allow preventing environmental pollution and injuries at work; design and survey and scientific institutes, design bureaus, firms of various forms of ownership.

**Types of professional activity:**

- design and engineering;
- service and operational;
- organizational and managerial;
- expert, supervisory and inspection-auditing;
- research.

**Functions of professional activity:**

1) Organization of labor protection at enterprises and management of the activities of labor protection services, development and organization of operational control over the state of working conditions at workplaces, training of personnel in the scientific organization of labor, safety, electrical and fire safety, first aid;

2) Carrying out preventive measures to prevent industrial injuries, man-made and man-made emergencies, implementing measures to eliminate cases of industrial injuries, occupational and production-related diseases of workers caused by exposure to hazardous and harmful production factors;

3) Implementation and ensuring the effective functioning of the OSMS in organizations of all forms of management in order to improve the working conditions of workers, the organization of workplaces in accordance with labor legislation, the protection of the labor rights of workers performing labor functions in adverse working conditions.

4) Control of the state of the environment, participation in environmental expertise and audit to assess the impact on the environment of technosphere regions and projects for the construction of new technical facilities, oversight of compliance with the requirements of environmental legislation;

5) Willingness to participate in the organization of environmental control and monitoring systems, the development of environmental and logistics schemes, environmental management at the enterprise, environmental management at the level of the district, urban areas;

6) Willingness to carry out, as an executor, scientific research on new methods of control and monitoring of the environment, control of pollution sources, new technologies for energy and

resource saving;

7) Development as part of a team and under the guidance of technical projects for environmental control and monitoring, geographic information systems, energy and resource-saving technologies, the introduction of alternative fuels and non-traditional renewable and saving energy sources, projects for the use of secondary resources, closed production cycles, environmentally optimized cycles " production-consumption"

**List of positions of a specialist:**

Engineer for labor protection and safety, engineer for environmental protection, specialist in safety and environmental development, specialist in the field of waste management, regulation and state environmental expertise; specialized inspector for state supervision in the field of labor protection and environmental protection, researchers and specialists developers of normative and technical documentation in the field of labor protection and environmental protection.

**Professional certificates obtained at the end of training: no.**

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

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

- educational;
- production;
- undergraduate.

**Educational practice.**

During the internship, students should get an idea of the role of transport equipment in the country's economy, the variety of vehicles, the importance of mechanization and automation in increasing labor productivity, as well as an idea of the main technological processes of operation, maintenance and repair of transport equipment and technology of transport enterprises.

**Industrial practice 1.**

During the period of industrial practice, the student receives certain practical knowledge, skills and abilities according to the chosen educational program.

The objectives of the production practice are: deepening and consolidating the theoretical knowledge gained in the learning process; obtaining skills for the practical use of professional knowledge gained during the period of theoretical training; training in skills for solving practical and managerial problems; acquaintance with the specifics of the professional activity of a bachelor in a particular production; formation of a professional position of a specialist, style of behavior, development of professional ethics.

The tasks of industrial practice are to consolidate, deepen and systematize the knowledge gained in the study of theoretical basic and major disciplines at a particular enterprise or organization and to acquire initial practical experience.

**Undergraduate practice 2.**

The content of undergraduate practice is determined by the theme of the thesis (project). During the period of pre-diploma practice, the student collects factual material on the production (professional) activities of the enterprise (organization) and uses it in the development of the graduation project (work). The practice provides for the development of a given problem (the topic of the thesis) on the materials of the activities of a particular enterprise (organization) with the student's independent formulation of conclusions, proposals, recommendations, etc. In the process of practice, the student must demonstrate his knowledge and skills of a specialist, organizational skills, decision-making skills, performance discipline, responsibility, initiative.

**The final certification** is carried out in the form of writing and defending a thesis (project) or preparing and passing a comprehensive exam. The purpose of the final certification is to assess the learning outcomes and mastered competencies achieved upon completion of the study of the educational program of higher education.



The thesis (project) aims to identify and evaluate the analytical and research abilities of the graduate and is a summary of the results of the student's independent study of an actual problem in the field of the chosen specialty. The comprehensive exam program reflects the integrated knowledge and key competencies that meet the requirements of the labor market in accordance with the educational program of higher education.

**5. MATRIX OF CORRELATION OF LEARNING OUTCOMES IN THE EDUCATIONAL PROGRAM WITH EDUCATIONAL DISCIPLINES / MODULES**

№	Name of the discipline	Number of credits	Matrix for correlating learning outcomes in an educational program with academic disciplines									
			LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10
1	2	3	4	5	6	7	8	9	10	11	12	13
1	History of Kazakhstan	5									+	
2	Philosophy	5									+	
3	Foreign language	10									+	
4	Kazakh (Russian) language	10									+	
5	Information and Communication Technologies	5	+									
Socio-Political Knowledge Module		8										
6	Sociology	2									+	
7	Culturology	2									+	
8	Political science	2									+	
9	Psychology	2									+	
10	Physical Culture	8									+	
University component module		5										
11	Ecology and life safety	3				+						
12	Scientific research methods	2	+									
13	Fundamentals of Economics and Entrepreneurship	3		+						+		
14	Fundamentals of law and anti-corruption culture	3								+	+	
15	Engineering Mathematics	9	+									
16	Applied Physics	9	+									
17	Fundamentals of computer modeling	6	+									
18	Environmental chemistry	6	+						+			
19	Electrical Engineering and Fundamentals of Electronics	6			+							
20	Methods and means of measurement control	6					+					
21	Analytical chemistry	6	+									
22	Labor and environmental law	6					+		+			
23	Educational practice	2	+	+	+	+	+	+	+	+	+	+
24	Geocology	9							+			
25	Ecology of the geosphere and its problems	9							+			
26	Environmental safety in transport	6							+			
27	Industrial ecology	6					+	+				
28	Greening energy sources	6		+				+				
1	2	3	4	5	6	7	8	9	10	11	12	13

29	Himmotology	6							+				
30	Labor safety at transport enterprises	6		+						+			
31	Safety in construction and transport organizations	6		+						+			
32	Electrical safety and lightning protection	6		+	+								
33	Safe operation of electrical circuits	6		+	+								
34	Environmental monitoring	6						+					
35	Industrial monitoring	6						+					
36	Industrial sanitation and ergonomics	9		+							+		
37	Fire safety	6		+	+	+							
38	Wastewater treatment and maximum allowable discharges	9		+				+					+
39	System of organization and management of labor protection	6		+						+	+		
40	Technical regulation of industrial safety	6		+	+					+			
41	Air basin protection and emission limits	9		+				+					+
42	Field trip 1	3	+	+	+	+	+	+	+	+	+	+	+
43	Field trip 2	4	+	+	+	+	+	+	+	+	+	+	+
44	Industrial ventilation	6			+					+	+		
45	Industrial toxicology	6				+							
46	Radiation safety of industrial facilities	9			+	+							
47	Chemical and biological safety	9			+	+							
48	Ways to survive and provide first aid	6				+							
49	Utilization and processing of secondary resources	6		+									
50	Managerial Economics (Minor 1)	3		+							+		
51	Time Management (Minor 2)	3		+							+		
52	The main objects of biotechnology (Minor 1)	3		+		+							
53	Environmental Impact Assessment Software (Minor 2)	3	+										+
54	Resource saving in transport (Minor 1)	3		+							+		
55	Business Intelligence PowerBI (Minor 2)	3		+									
56	Final examination	8	+	+	+	+	+	+	+	+	+	+	+

## 6. STRUCTURE OF THE BACHELOR'S EDUCATIONAL PROGRAM

№	Name of cycles of disciplines	General labor intensity	
		in academic hours	in academic credits
1	Cycle general education disciplines (GED)	<b>1680</b>	<b>56</b>
1)	<b>Required Component</b>	<b>1530</b>	<b>51</b>
	History of Kazakhstan	150	5
	Philosophy	150	5
	Foreign language	300	10
	Kazakh (Russian) language	300	10
	Information and Communication Technologies	150	5
	Module of socio-political knowledge (sociology, political science, cultural studies, psychology)	240	8
	Physical Culture	240	8
2)	<b>University component and (or) elective component</b>	<b>150</b>	<b>5</b>
2	Цикл базовых и профилирующих дисциплин (BD, MD)	not less than 5280	at least 176
1)	<b>University component and (or) elective component</b>		
2)	<b>Professional practice</b>		
3	Additional types of training (ATT)		
1)	<b>Selectable Component</b>		
4	Selectable Component	at least 240	at least 8
	<b>Total</b>	<b>at least 7200</b>	<b>at least 240</b>

**CURRICULUM**

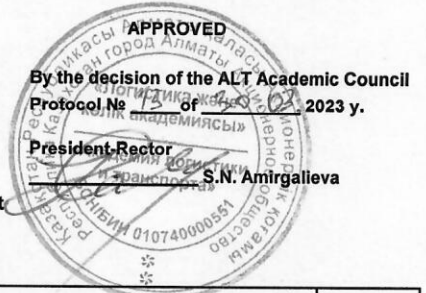
Form of study: full-time

**Direction of training:**  
6B112 Occupational health and safety

Duration of study: 4 years

**Group of educational programs:**  
B-094-Sanitary and preventive measures

**Name of the educational program:**  
6B11236 - Labor protection and environmental protection in transport



Admission: 2023

**Degree: Bachelor's Degree in Services**

№	Discipline code	Name of cycles and disciplines	Total labor intensity		Form of control, semester		The amount of study load, contact hours					Distribution by semester									Securing the chair																							
			in academic hours	in academic credits	Exam	CP (CW)	Total hours	Classroom			IWS		1st course		2nd course		3rd year		4th year																									
								lectures	practical	laboratory	IWST	IWS	1 term 15 weeks	2 term 15 weeks	3 term 15 weeks	4 term 15 weeks	5 term 15 weeks	6 term 15 weeks	7 term 15 weeks	8 term 7 weeks		9 term 8 weeks																						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23																						
<b>1. CYCLE OF GENERAL EDUCATION DISCIPLINES (GED):</b>																																												
1.1.	<b>Required component:</b>		1530	51	13		1530	120	358	15	120	917	21	16	7	7	0	0	0	0	0																							
1.1.1.	23-0-B-OK-IK	History of Kazakhstan	150	5	3		150	30	15		8	97			5							SGD and FB																						
1.1.2.	23-0-B-OK-Fil	Philosophy	150	5	4		150	30	15		8	97			5							SGD and FB																						
1.1.3.	23-0-B-OK-IYa	Foreign language	300	10	1,2		300		90		16	194	5	5								YAP																						
1.1.4.	23-0-B-OK-K(R)Ya	Kazakh (Russian) language	300	10	1,2		300		90		16	194	5	5								YAP																						
1.1.5.	23-0-B-OK-IKT	Information and communication technologies	150	5	1		150	30		15	8	97	5									IKT																						
1.1.6.	Module of socio-political knowledge:		240	8	1,2		240																																					
	23-0-B-OK-Sotz	Sociology																						7	15		8	30															SGD and FB	
	23-0-B-OK-Kul	Cultural studies																						8	15		8	29			4													SGD and FB
	23-0-B-OK-Pol	Political Science																						7	15		8	30			4													SGD and FB
	23-0-B-OK-Psi	Psychology	8	15		8	29																SGD and FB																					
1.1.7.	23-0-B-OK-FK	Physical Culture	240	8	1,2,3,4		240		88		32	120	2	2	2	2						SGD and FB																						
1.2.	<b>Component of choice:</b>		150	5	1		150	30	15	0	8	97	0	0	5	0	0	0	0	0	0	0																						
<b>Module of the component of the choice of the OOD</b>																																												
1.2.1.	23-0-B-KV-EBGD	Ecology and life safety	150	5	3		150	30	15		8	97			5								ATS and BZHD																					
	23-0-B-KV-MNI	Methods of scientific research																						SGD and FB																				
	23-0-KV-OEIP	Fundamentals of Economics and Entrepreneurship																							LMT																			
	23-0-KV-OPAK	Fundamentals of law and anti corruption culture																							SGD and FB																			
<b>TOTAL for the OOD cycle:</b>			1680	56	14	0	1680	150	373	15	128	1014	21	16	12	7	0	0	0	0	0																							
<b>2. CYCLE OF BASIC DISCIPLINES (DB):</b>																																												
2.1.	<b>University component:</b>		1680	56	9		1680	255	225	45	64	1031	9	15	18	8	6	0	0	0	0	0																						
2.1.1.	23-0-B-VK-IM	Engineering Mathematics	270	9	2		270	45	45		8	172		9									OI																					
2.1.2.	23-0-B-VK-PF	Applied Physics	270	9	1		270	45	30	15	8	172	9										OI																					
2.1.3.	23-0-B-VK-OKM	Fundamentals of computer modeling	180	6	3		180	30	30		8	112			6								IKT																					
2.1.4.	23-0-B-VK-HOS	Environmental Chemistry	180	6	2		180	30	15	15	8	112		6									ATS and BZHD																					
2.1.5.	23-0-B-VK-EOE	Electrical engineering and the basics of electronics	180	6	4		180	15	15	15	8	127			6								Ec																					
2.1.6.	23-36-B-VK-MSKI	Methods and means of measurement control	180	6	3		180	30	30		8	112			6								ATS and BZHD																					
2.1.7.	23-36-B-VK-AH	Analytical Chemistry	180	6	3		180	30	30		8	112			6								OI																					
2.1.8.	23-36-B-VK-TEZ	Labor and environmental legislation	180	6	5		180	30	30		8	112				6							ATS and BZHD																					
2.1.9.	23-0-VK-Upr	Educational practice	60	2	4		60								2								ATS and BZHD																					
2.2.	<b>Component of choice:</b>		1170	39	6		1170	195	165	15	48	747	0	0	0	15	6	18	0	0	0																							
2.2.1.	23-36-B-KV-Geoe	Geoeology	270	9	4		270	45	30		8	187			9								ATS and BZHD																					
	23-36-B-KV-EGPI	Ecology of the geosphere and its problems																																										
2.2.2.	23-36-B-KV-EBT	Environmental safety in transport	180	6	4		180	30	30		8	112			6								ATS and BZHD																					
	23-36-B-KV-PE	Industrial ecology																																										
2.2.3.	23-36-B-KV-EIE	Greening of energy sources	180	6	6		180	30	30		8	112					6						ATS and BZHD																					
	23-36-B-KV-Himm	Chemotology																																										



## 8. CATALOG OF DISCIPLINES OF THE UNIVERSITY COMPONENT

### EDUCATIONAL PROGRAM

6B11236 – «Occupational safety and environmental protection in transport»

6B11236 – «Occupational safety and environmental protection in transport»

Level of education: bachelor's degree

Training period: 4 years

Year of admission: 2023

Cycle	Component	Name of the discipline	General labor intensity		Semester	Learning Outcomes	Brief description of the discipline	Prerequisites	Postrequisites
			в академических часах	в академических кредитах					
1	2	3	4	5	6	7	8	9	10
BD	UC	Engineering Mathematics	270	9	2	LO 1	Mastering the mathematical apparatus for solving theoretical and applied problems of a specific profile, obtaining an idea of mathematical modeling and interpreting the solutions obtained. Questions of linear algebra, analytic geometry, mathematical analysis, differential equations, series theory are considered. As part of the discipline, settlement and graphic work is performed. Methods of active learning - teamwork, "brainstorming". The form of assessment is combined in the form of problem solving	Basic school knowledge in mathematics	Fundamentals of computer modeling Methods and means of measurement control Business analytics PowerBI (Minor 2)
BD	UC	Applied Physics	270	9	1	LO 1	Formation of students' skills and abilities when using fundamental laws, theories of classical and modern physics, as well as methods of physical research, thinking, scientific worldview, with independent cognitive activity, be able to simulate physical situations using computer technology and ideas about the modern natural-science picture of the world. As part of the discipline, settlement and graphic work is performed. Labs are performed on the Coursera platform. Methods of active learning - teamwork, "brainstorming". Active learning methods are teamwork. The form of control is a combined exam	Basic school knowledge in physics	Electrical engineering and fundamentals of electronics Electrical safety and lightning protection Safe operation of electrical circuits Industrial ventilation Radiation safety of industrial facilities Industrial sanitation and ergonomics

BD	UC	Fundamentals of computer modeling	180	6	3	LO 1	Competencies are formed on the purpose of modeling tools, hardware and software tools, as well as in the development of object models for various purposes, as well as the programming languages Python, Java, etc. Within the framework of the discipline, interactive teaching methods, the calculation-analytical method, the case-task method, game methods are used. The form of assessment is an exam in the form of testing	Engineering Mathematics	Wastewater treatment and ELVs, Air basin protection and ELVs, EIA software (Minor 2), PowerBI business analytics (Minor 2)
BD	UC	Environmental Chemistry	180	6	2	LO 1, LO 6	To familiarize students with the main processes of migration and transformation of chemical compounds occurring in the environment, to the extent useful when using them in practical work and decision-making, and to show the importance of environmental chemistry as a natural science base for solving. Teaching methods are the main methods and techniques of research and practical work in the field of environmental chemistry when monitoring the influence of environmental factors on the bioavailability of chemical compounds, including those dangerous to living organisms. The form of control is an exam in a combined form.	Basic school knowledge in chemistry and biology	Analytical chemistry, Waste water treatment and MPD, Air basin protection and MPE, Geoecology, Ecology of the geosphere and its problems, Environmental safety in transport, Environmental monitoring, Main objects of biotechnology (Minor 1)
BD	UC	Electrical Engineering and Fundamentals of Electronics	180	6	4	LO 3	The discipline studies electrical circuits of direct, alternating and three-phase currents, the principle of operation and purpose of a transformer and electrical machines, methods for measuring electrical quantities, the application and general rules for the operation of semiconductor devices and circuits.	applied Physics	Industrial sanitation and ergonomics Electrical safety and lightning protection, Safe operation of electrical circuits
BD	UC	Methods and means of measurement control	180	6	3	LO 5	The discipline provides information about measurement methods, measuring equipment for scientific and practical research and obtaining accurate and objective information about the object of study. Methods for determining uncertainty, as well as determining measurement errors. He studies some features of express control methods and methods for choosing methods, technical means and control devices. Teaching methods - the main methods and techniques of research and practical work in the field of processing	Engineering Mathematics	Industrial sanitation and ergonomics, Wastewater treatment and MPD, Air basin protection and MPE, Environmental monitoring, Industrial monitoring,



							experimental data when monitoring the influence of environmental factors on the state of living organisms. The form of control is an exam in a combined form.										Chemical and biological safety, Radiation safety of industrial facilities, Industrial toxicology	
BD	UC						The subject of the discipline is mastering the theory and practice of methods of chemical and physico-chemical analysis. Studies qualitative and quantitative methods for studying the chemical composition of compounds and products; chemical methods for the analysis of components and objects of industry and the environment and products of technogenic activity. Teaching methods - calculation and analytical method. The form of control is an examination in the form of an oral survey.	180	6	3	LO 1						Wastewater treatment and PDS, Ecologization of energy sources, Chemmotology, Chemical and biological safety, Industrial toxicology, Utilization and recycling secondary resources	
																	Environment chemistry	
BD	UC						The discipline studies the provisions of the main legislative acts in the field of labor protection and ecology. The main provisions of the Labor Code of the Republic of Kazakhstan, accounting and investigation of accidents at work, legislative acts in the field of regulation of hazardous and harmful production factors, the procedure for attestation of workplaces. The main provisions of the Environmental Code of the Republic of Kazakhstan, the procedure for conducting EIA, draft MPE and MPD., Legislative acts in the field of environmental quality regulation. Active learning methods - case studies, brainstorming	180	6	5	LO 5, LO 7							The system of organization and management of labor protection, Technical regulation of industrial safety, Protection of the air basin and MPE, Wastewater treatment and MPD, Fire safety, Labor safety at transport enterprises, Safety in construction and transport organizations, Industrial monitoring, Industrial toxicology, Industrial
																	Fundamentals of law and anti-corruption culture	

										radiation safety objects, Chemical and biological safety
BD	UC	Educational practice	60	2	4	LO 1- LO 10	The organization of educational practice is aimed at ensuring familiarization of bachelors with the main areas, objects, areas of professional activity and training profiles and consolidation of theoretical material, as well as departure to the branch of the department for this educational program. Control form - report protection		Fundamentals of computer modeling	All disciplines of DB and PD cycles, Scientific research methods
MD	UC	Industrial sanitation and ergonomics	270	9	5	LO 2, LO 8	Sanitary requirements for the selection and planning of the territory of industrial enterprises, for the arrangement of industrial buildings, structures, premises and the surrounding area. Parameters of the microclimate of workplaces, their influence on the body, methods of creating comfortable weather conditions. Methods of protection against harmful substances in the air, noise, vibration, ultrasound. Industrial lighting rationing and calculation methods. features and possibilities of human functioning in systems: person, object, environment technical aesthetics, labor psychology, engineering psychology. movements of the human body during work, energy costs and the productivity of a particular human labor. NOT		Applied physics, Electrical engineering and fundamentals of electronics Methods and means of measurement control	The system of organization and management of labor protection, Technical regulation of industrial safety, Safety in construction and transport organizations, Labor safety at enterprises Industrial ventilation Industrial toxicology
MD	UC	Fire safety	180	6	7	LO 2, LO 3, LO 4	The discipline sets out the types, conditions for the occurrence and causes of fires at transport facilities and rolling stock; fire safety requirements for electrical equipment, engineering systems and the general plan of the enterprise; issues related to the flammability and fire resistance of building materials and structures are considered; as well as measures to prevent fires, means and methods of extinguishing them, actions of personnel in case of fire.		Ecology and Belarusian Railways Labor and environmental legislation, Labor safety at transport enterprises, Safety in construction and transport organizations, chemmotology, greening of energy sources	final examination
MD	UC	Wastewater treatment and	270	9	8	LO 2, LO 5,	The discipline studies the types and sources of water pollution, natural sources of water supply, water intake facilities,		Chemistry of the	final examination

							discharge limits						environment Fundamentals of computer modeling Methods and means of measurement control, Analytical chemistry, Labor and environmental legislation Environmental safety in transport, Industrial ecology, Environmental monitoring, industrial monitoring			
														requirements for water quality in reservoirs and waters of cultural, domestic and drinking water supply, technological processes, structures, biological physicochemical and mechanical methods for the treatment of natural and waste water.		
MD	UC			180	6	7	System of organization and management of labor protection				LO 2, LO 7, LO 8			The discipline studies advanced methods and technical solutions to improve working conditions, methods of organizing and managing labor protection in transport, methods and methods for reducing industrial injuries and teaching safe labor practices, activities for training and monitoring knowledge on labor protection and safety.	Labor and environmental legislation, Labor safety at transport enterprises, Safety in construction and transport organizations Industrial sanitation and ergonomics	final examination
MD	UC			180	6	6	Technical regulation of industrial safety				LO 2, LO3, LO 7			The discipline studies the legislation on technical regulation in the Republic of Kazakhstan on the basis of European standards, approaches to the development of general and sectoral technical regulations, republican standards and standards of organizations, interaction with enterprises and government authorities. The discipline studies the entire system of ensuring the safety of life and health of workers in the course of labor activity, including legal, socio-economic, organizational, technical, sanitary and hygienic, medical, preventive, rehabilitation and other measures and means.	Labor and environmental law, Industrial sanitation and ergonomics	final examination

MD	UC	Air basin protection and emission limits	270	9	8	LO 2, LO 5, LO 10	<p>The discipline is the formation of students' understanding of the environmental problems of the state of atmospheric air as a result of human technological activity and ways to solve them. Basic properties and patterns of distribution of pollutants in the atmosphere. Sources of formation of technogenic emissions. The design and principles of operation of dust and gas cleaning equipment at industrial enterprises and biotechnology facilities. Determine the maximum allowable emission of pollutants into the atmosphere for an industrial enterprise. Perform calculations of dispersion of emissions in the atmosphere, the sanitary protection zone (SPZ) of the enterprise. Calculate the hazard category of the enterprise (KOP). Methodology for environmental and economic assessment of the impact of the enterprise on the environment. Make calculations for devices for cleaning emissions into the atmosphere.</p>	<p>Chemistry of the environment, Fundamentals of computer modeling, Methods and means of measurement control, Labor and environmental legislation, Environmental safety in transport, Industrial ecology, Environmental monitoring, industrial monitoring</p>	final examination
MD	UC	Field trip 1	90	3	6	LO 1- LO 10	<p>The main objectives of the internship are: consolidating theoretical knowledge and practical skills in the chosen educational program in a working environment, gaining experience in organizational work, obtaining a working specialty, developing practical skills and competencies in the process of mastering a bachelor's program. It is carried out in the bases of practices at enterprises according to this educational program.</p>	<p>Basic and major disciplines of the EP, Methods of scientific research,</p>	final examination
MD	UC	Field trip 2	120	4	9	LO 1- LO 10	<p>The purpose of the practice for bachelors is to ensure the relationship between the theoretical knowledge gained in the assimilation of the chosen educational program and practical activities. The objectives of this practice are to consolidate and deepen the theoretical knowledge gained by students in the learning process, collect information for writing a final qualifying work, study best practices at the enterprise, as well as gain experience in independent research work, mastering a variety of methods of scientific work. It is carried out in the bases of practices at enterprises according to this educational program. Control form - report protection</p>	<p>Major disciplines of scientific research</p>	final examination
<b>Итого</b>			<b>3420</b>	<b>114</b>					

AGREED  
 Chairman of the Board of  
 Directors of Almaty Ventilation  
 Plant LLP  
 Bakkulov M.S.  
 «03» 03 2023y.

«Логистика және көлік академиясы» АҚ  
 APPROVED  
 Director of the Institute  
 «Transport Engineering»  
 Chigambayev T.O.  
 03.03.2023y.

9. CATALOG OF DISCIPLINES OF THE OPTIONAL COMPONENT

EDUCATIONAL PROGRAM

6B11236 – «Occupational safety and environmental protection in transport»

Level of education: bachelor's degree

Training period: 4 years

Year of admission: 2023

Cycle	Component	Name of the discipline	General labor intensity		Semester	Learning Outcomes	Brief description of the discipline	Prerequisites	Postrequisites
			in academic hours	in academic credits					
1	2	3	4	5	6	7	8	9	10
GED	EC1	Ecology and Life Safety	150	5	3	LO 4	The study of the basic environmental concepts, environmental problems and approaches to their solution, sources and types of environmental pollution by enterprises, the principles of standardizing the quality of atmospheric air and water, the main provisions of legislation in various fields, natural and man-made emergencies, their causes, methods of prevention and protection. Teaching methods - analysis of specific situations (case-study), group discussions	Environment I chemistry	Fire safety, Geocology, Ecology of the geosphere and its problems, Environmental safety in transport, Industrial ecology, Ecologization of energy sources, Chernomology, Radiation safety of industrial facilities, Chemical and biological safety, Ways of survival and first aid
	EC 2					LO 1	Obtaining theoretical and applied knowledge by students on the methods of scientific research of problems in the field of		

	research								study, training of specialists with the skills of cognitive activity in the field of science, the formation of deep ideas about the content of scientific activity, its methods and forms of knowledge. Active learning methods - Group, scientific discussion, debate, project method	Module	practice 1, Production practice 2, Final certification
EC 3	Fundamentals of Economics and Entrepreneurship							LO 2, LO 8	Formation of analytical thinking skills in the implementation of conclusions on economic issues; the ability to independently draw conclusions on the basis of the studied material; navigate in any economic situations, apply theoretical economic knowledge in practice, realize their abilities, both in a personal and professional direction. Active learning methods - business and role-playing games	Socio-Political Knowledge Module	Management Economics (Minor 1), Time Management (Minor 2)
EC 4	Fundamentals of law and anti-corruption culture							LO 8, LO 9	Improving the public and individual legal awareness and legal culture of students, as well as the formation of a system of knowledge and civil position to combat corruption as an anti-social phenomenon. As a result of studying the course, the student must master the fundamental concepts of law, the constitutional structure of the state power of the Republic of Kazakhstan, the rights and freedoms of citizens enshrined in the Constitution, the mechanism and protection of the legitimate interests of a person in case of their violation. Active learning methods - case studies, brainstorming	Socio-Political Knowledge Module	Labor and environmental legislation, Management economics (Minor 1), Time management (Minor 2)
EC 5	Geoecology							LO 6	Interdisciplinary scientific direction combining studies of the composition, structure, properties, processes, physical and geochemical fields of the Earth's geospheres as a habitat for humans and other organisms. The direction of science on the integration of geospheres and society, on the influence of man on the state of the atmosphere, hydrosphere, lithosphere, biosphere, on the structure and qualitative and quantitative composition of the geospheres of the Earth	Environmental Chemistry, Ecology and Life Safety	Environmental monitoring
EC 6	Ecology of the geosphere and its problems							LO 6	Forms a holistic idea among students about the structure and connection of the geosphere shells of planet Earth, gives a complex of scientific knowledge about the geospheres of the Earth, their geological role, environmental functions, consequences arising from their interaction with each other and in contact with the technosphere, traces the dynamics of processes occurring within geospheres, and also considers ways to solve problems at the geosphere level, in order to	Environmental Chemistry, Ecology and Life Safety	Environmental monitoring
BD					270	9	4				

							<p>preserve a productive natural environment for the current and future generation.</p>	<p>Environmental Chemistry, Ecology and Life Safety</p>	<p>Ecologization of energy sources, Chemmnotology, Resource saving in transport (Minor 1) Wastewater treatment and MPD, Air basin protection and MPV, Chemical and biological safety, Utilization and processing of secondary resources</p>
<p>EC B7</p>	<p>Environmental safety in transport</p>	<p>180</p>	<p>6</p>	<p>4</p>	<p>LO 6</p>	<p>The discipline considers the main sources of environmental pollution by road and railway transport enterprises, methods for reducing the harmful impact of transport on the environment and methods for cleaning waste gases and wastewater from transport enterprises, methods for reducing noise. Economic basis and management of environmental protection at transport enterprises.</p>			
<p>BD</p>	<p>EC 8</p>	<p>180</p>	<p>6</p>	<p>4</p>	<p>LO 5, LO 6</p>	<p>The discipline deals with the harmful effects of industrial enterprises on the environment, the causes of the harmful effects of transport, metallurgy, chemical industry enterprises and the main ways and methods to reduce the negative impact on the environment. Economic fundamentals and environmental management in the operation of industrial enterprises</p>	<p>Ecology and life safety</p>	<p>Resource saving in transport (Minor 1), Main objects of biotechnology (Minor 1) Wastewater treatment and MPD, Air basin protection and MPV, Chemical and biological safety, Utilization and processing of secondary resources, Industrial токсикология</p>	
<p>BD</p>	<p>Greening energy sources</p>	<p>180</p>	<p>6</p>	<p>6</p>	<p>LO 2, LO 6</p>	<p>The discipline considers the main alternative energy sources, wind, sun, etc., modern environmental requirements for the quality of fuels and lubricating oils in the Republic of Kazakhstan and abroad, the nomenclature and range of fuels and lubricants. Methods of production and environmentally friendly methods of combustion of solid and liquid fuels. Main physical and chemical properties of solid, liquid and gaseous fuels. Impact of quality of fuels and lubricants on environmental pollution</p>	<p>Analytical chemistry, Ecology and life safety, Environmental safety in transport, Utilization and processing of secondary resources</p>	<p>Fire safety, Resource saving in transport (Minor 1)</p>	

	EC 10	Himmotology										Analytical chemistry, Ecology and life safety, Environmental safety in transport	Fire safety, Resource saving in transport (Minor I)
	EC 11	Labor safety at transport enterprises										Labor and environmental legislation, Electrical safety and lightning protection, Safe operation of electrical circuits Ways of survival and first aid, Industrial sanitation and ergonomics	Fire safety, System of organization and management of labor protection
BD	EC 12	Safety in construction and transport organizations				180	6	6	6	LO 7		Labor and environmental legislation, Electrical safety and lightning protection Safe operation of electrical circuits, Ways of survival and first aid, Industrial sanitation and ergonomics	Fire safety, System of organization and management of labor protection
	EC 13	Electrical safety and lightning protection				180	6	6	5	LO 2, LO 3		Labor and environmental legislation, Electrical safety and lightning protection Safe operation of electrical circuits, Ways of survival and first aid, Industrial sanitation and ergonomics	Fire safety, System of organization and management of labor protection
BD												Applied Physics, Electrical Engineering and Fundamentals of Electronics	Applied Physics, Electrical Engineering and Fundamentals of Electronics



									electromagnetic fields. The discipline sets out the basic rules for the operation and maintenance of electrical installations, including high-voltage power lines, the causes of electrical injuries, factors affecting the degree of electric shock, organizational and technical measures to protect personnel from electric current, first aid measures for electrical injuries.	Applied Physics, Electrical Engineering and Fundamentals of Electronics	Labor safety at transport enterprises, Safety in construction and transport organizations
EC 14	Safe operation of electrical circuits					LO 2, LO 3				Chemistry of the environment Methods and means of measurement control, Geoecology, Ecology of the geosphere and its problems	Wastewater treatment and discharge limits, Air basin protection and emission limits
EC 15	Environmental monitoring					PO5			The discipline outlines the purpose of monitoring and its classification. Types of environmental monitoring; systems of methods of observation and control of the environment; monitoring; requirements for the quality of the environment; fundamentals of biomonitoring and its place in the assessment of environmental quality. Methods for sampling water, air, soil, instruments and equipment for analysis are being studied.		
EC 16	Industrial monitoring			180	6	5			The discipline outlines the main methods of monitoring compliance with environmental requirements by enterprises. Assessment of the negative impact of enterprises (mainly transport) on the quality of the environment. Types of observations of the quality of the air and water environment, water bodies and protected areas. systems of methods of observation and ground support, feedback and control, methods of control of estimation and forecast.	Methods and means of measurement control, Labor and environmental legislation	Wastewater treatment and discharge limits, Air basin protection and emission limits, Industrial toxicology
EC 17	Industrial ventilation					LO 3, LO 7, LO 8			It studies general information about ventilation, ventilation tasks, characteristics of the microclimate of the working area, aerodynamics of ventilation flows, basic laws of aerodynamics. As well as types of air flows, resistance coefficients, characteristics of air ducts. Fundamentals of aerodynamic modeling of ventilation flows, natural thrust, its characteristics and calculation methods. Fans, their classification and characteristics.	Applied Physics, Industrial Sanitation and Ergonomics	final examination
EC 18	Industrial toxicology			180	6	7			It is the basic discipline of the elective component. The discipline studies hazardous chemicals, potent chemical toxic substances, chemical, physical and physico-chemical processes underlying their application and use in various production processes. Expert assessments and management in the field of chemical safety Basic concepts of "green "	Methods and means of measurement control, Analytical chemistry, Labor and environmental	final examination

BD

MD

								chemistry, the creation of new medicines. Methods of prevention and protection from the harmful effects of toxic harmful substances.	legislation Industrial ecology Industrial sanitation and ergonomics Industrial monitoring	
	EC 19	Radiation safety of industrial facilities					LO 3, LO 4	The discipline is the basic discipline of the university component. The discipline considers X-ray and gamma radiation of radioactive substances; cosmic radiation radiation of radioactive isotopes of natural and artificial origin; types and effects of radioactive radiation on living organisms radioactive waste and disposal problems, units of electromagnetic radiation, control over the radioactive state of the environment, personal protective equipment	Applied physics Methods and means of measurement control, Labor and environmental legislation, Ecology and life safety	final examination
MD	EC 20	Chemical and biological safety	270	9	7		LO 3, LO 4	It studies the latest achievements in the field of chemical safety. Waste of transport enterprises, mechanisms of exposure to chemical, hazardous production factors, methods of their neutralization and neutralization Purpose - to give the student a holistic assessment of the content of chemicals in the industrial zone and in the disaster zone, as well as for eco-analytical monitoring of environmental objects.	Methods and means of measurement control, Analytical chemistry, Labor and environmental legislation, Ecology and life safety, Environmental safety in transport, Industrial ecology	final examination
	EC B21	Ways to survive and provide first aid					LO 4	The discipline considers the basics of a healthy lifestyle, ways of surviving in conditions of autonomous existence and providing first aid for various injuries, diseases, poisonings, allergic reactions, foreign bodies, psychological assistance, rules for applying bandages and resuscitation, general rules for caring for the injured and sick	Ecology and life safety	Labor safety at transport enterprises, Safety in construction and transport organizations
MD	EC 22	Utilization and processing of secondary resources	180	6	5		LO 2	Formation of competencies aimed at increasing the resource and energy saving capacity of technologies through the use of waste as secondary raw materials, which is in line with the current global trend of transition to a circular economy.	Analytical chemistry, Environmental safety in transport,	Greening energy sources

									Industrial ecology	
EC 23	Managerial Economics (Minor 1)	90	3	5	LO 2, LO 8	Teaching methods are: problem solving, holding thematic colloquia, seminars. The form of control is a combined exam. Formation of the 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. The study of this discipline will allow students to gain and develop knowledge in the field of analytical research of economic, technological and technical parameters of an enterprise, and will also allow them to master the skills of applying special methods of economic justification of management decisions and assessing their consequences. Active learning methods are used - situational tasks, case method. Form of control - oral exam	Fundamentals of Economics and Entrepreneurship, Fundamentals of Law and Anti-Corruption Culture	final examination		
EC 24	Time management (Minor 2)				LO2, LO 8	Formation of students' general ideas about the essence and types of time management, principles and methods of time resource management for more successful implementation of professional activities. Methods of active learning are used - situational tasks, case method. The form of control is an individual project.	Fundamentals of Economics and Entrepreneurship, Fundamentals of Law and Anti-Corruption Culture	final examination		
EC 25	The main objects of biotechnology (Minor 1)	90	3	6	LO 2, LO 4	Formation of modern ideas among students receiving biological education about the objects of biotechnology at different levels of development, as well as about the basic principles and approaches used for their effective use in various fields of biotechnological production. The form of control is an individual project.	Environmental Chemistry, Industrial Ecology	final examination		
EC 26	EIA software (Minor 2)				LO 1, LO 10	Formation of students' knowledge base and teach the principles and methods of assessing the impact of various types of economic and other activities on the environment.	Fundamentals of computer modeling	final examination		
EC 27	Resource saving in transport (Minor 1)	90	3	7	LO 2, LO 8	Formation of students' general ideas about the essence and types of time management, principles and methods of time resource management for more successful professional activities. Active learning methods are used - situational	Environmental safety in transport, chemotology, ecologization of	final examination		

								tasks, case method. Form of control - individual project	energy sources	final examination
	EC 28	PowerBI Business Analytics (Minor 2)	1950	68	LO 2	The course introduces the basics of data analysis using the Power BI tool. Power BI is a comprehensive solution for business analysis and data visualization from Microsoft. The program allows you to present all the organization's data on a single dashboard, analyze heterogeneous information and turn it into expressive interactive reports that can be shared with other users.	Engineering Mathematics, Fundamentals of Computer Modeling			
	<b>Total</b>									



Head of the Department «Vehicles and Life Safety»

Shingisov B. T.

**ЭКСПЕРТНОЕ ЗАКЛЮЧЕНИЕ**  
на образовательную программу  
**6В11236-Охрана труда и защита окружающей среды на транспорте**

Реализация образовательной программы «6В11236-Охрана труда и защита окружающей среды на транспорте» осуществляется посредством последовательности изучаемых дисциплин, с установлением конкретных задач и целевых индикаторов. Четко прослеживается междисциплинарное взаимодействие, которое заключается в комплексной связи между содержанием отдельных учебных дисциплин, посредством которых достигается внутреннее единство программы подготовки специалистов.

В учебном плане рассматриваемой образовательной программе определен перечень всех учебных дисциплин обязательного компонента и компонента по выбору, трудоемкость каждой учебной дисциплины в кредитах, последовательность их изучения, виды учебных занятий и формы контроля. Актуально изучение вопросов безопасности труда и охраны окружающей среды применительно к транспортной отрасли Республики Казахстан. Дисциплины рассматриваемой образовательной программы формируют у обучающихся понимание роли экологии и охраны труда в решении современных экономических и политических проблем, умение анализировать явления и события природного, техногенного и социального характера.

Образовательные траектории разработаны в соответствии с запросами транспортно-коммуникационной отрасли.

Очень актуально изучение дисциплин «Утилизация и переработка вторичных ресурсов» и «Экологизация источников энергии», охватывающих вопросы ресурсосбережения, которые являются в настоящее время актуальными не только в транспортной отрасли. Кроме того образовательная программа полностью охватывает актуальные вопросы в области охраны труда и защиты окружающей среды.

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

Таким образом, представленная на экспертизу образовательная программа «6В11236-Охрана труда и защита окружающей среды на транспорте» по направлению подготовки кадров «6В112 Гигиена и охрана труда на производстве», полностью соответствует требованиям ГОСО, имеет четкую последовательность при разработке, отвечает современным запросам рынка труда, профессиональным стандартам и может быть реализована для подготовки кадров по образовательной программе «6В11236-Охрана труда и защита окружающей среды на транспорте» по направлению «6В112 Гигиена и охрана труда на производстве»

**Председатель Совета директоров  
ТОО «Алматинский  
вентиляторный завод»**



**Баккулов М.С.**

**ЭКСПЕРТНОЕ ЗАКЛЮЧЕНИЕ**  
**на образовательную программу**  
**6В11236-Охрана труда и защита окружающей среды на транспорте**

Представленная на экспертизу образовательная программа 6В11236 – «Охрана труда и защита окружающей среды» (бакалавриат) разработана сотрудниками кафедры «Автотранспортные средства и БЖД» АО «Академии логистики и транспорта» в соответствии с требованиями к содержанию и оформлению образовательных программ. В состав образовательной программы входят следующие структурные элементы: общие сведения, нормативные ссылки, паспорт образовательной программы, компетентная модель выпускника, матрица соотнесения результатов обучения по образовательной программе с учебными дисциплинами, структура образовательной программы бакалавриата, учебный план, каталоги дисциплин вузовского компонента и компонента по выбору.

Целью образовательной программы является – подготовка высококвалифицированных специалистов в области охраны труда и защиты окружающей среды, обладающих необходимыми знаниями, умениями и навыками для создания, внедрения системы управления охраной здоровья и безопасностью труда и передовых методов защиты окружающей среды для снижения травматизма и улучшения здоровья населения.

Образовательная программа 6В11236 – «Охрана труда и защита окружающей среды» (бакалавриат) имеет траекторию обучения, которая позволяют выпускнику после обучения занимать следующие должности: инженер по охране труда и технике безопасности, инженер по охране окружающей среды, специалист по технике безопасности и экологическому развитию, специалист в области обращения с отходами, нормирования и государственной экологической экспертизы; спец.инспектор по государственному надзору в области охраны труда и охраны окружающей среды, научные сотрудники и специалисты разработчики нормативной и технической документации в области охраны труда и защиты окружающей среды.

6В11236 – «Охрана труда и защита окружающей среды» (бакалавриат) разработана на высоком профессиональном уровне соответствует требованиям, предъявляемым к образовательным программам и рекомендуется к использованию в учебном процессе технических высших учебных заведений.

Декан факультета географии и  
природопользования, к.г.н.,  
ассоциированный профессор,  
КазНУ им. аль-Фараби



Актымбаева А.С.

**Review**  
for the educational program  
6B11236 - Labor protection and environmental protection in transport

The undergraduate educational program "6B11236 - Occupational Health and Environmental Protection in Transport" contains the following information: graduate qualifications, form and duration of study, direction and characteristics of graduates' activities, a complete list of competencies that a graduate should have as a result of mastering this educational program.

The disciplines of the curriculum for the peer-reviewed educational program form the entire necessary list of general cultural and professional competencies provided for by the State Educational Standard for the relevant types of activity.

The curriculum of the educational program defines a list of all academic disciplines of the mandatory component and the optional component, the labor intensity of each academic discipline in credits, the sequence of their study, and the types of training sessions. The catalog of elective disciplines and the catalog of the intrauniversity component fully reflect the continuity of disciplines (for example, to study the discipline "Environmental Monitoring", the discipline "Methods and means of measurement control" is studied, etc.).

The sequence of studying disciplines was observed, the disciplines necessary for reporting on labor protection and ecology were included.

The content of the work programs of academic disciplines and practices allows us to conclude that it corresponds to the competence model of the graduate.

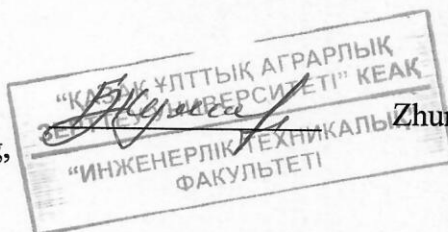
The educational program provides for professional and practical training of students in the form of practice. The content of practice programs testifies to their ability to form the practical skills of students.

Experienced teaching staff, leading representatives of the employer, students were involved in the development of the educational program, their requirements were taken into account when forming the disciplines of the professional cycle.

**Conclusion:**

In general, the peer-reviewed educational program "6B11236 - Occupational Safety and Environmental Protection in Transport" meets the basic requirements of the State Educational Standards, the national qualifications framework, the industry qualifications framework, professional standards and contributes to the formation of general cultural and professional competencies in the area of training "6B112 Occupational Health and Safety in production."

Head of the Department Agricultural  
machinery and mechanical engineering,  
candidate of Technical Sciences,  
Associate Professor, KazNARU



Zhumagulov Zh.B.

## 12. РЕКОМЕНДАТЕЛЬНЫЕ ПИСЬМА

Заведующему кафедрой  
«АТС и БЖД»  
АО «Академия логистики  
и транспорта»  
Шингисову Б.Т.

Уважаемый Бейбит Туменбаевич!

Руководство ТОО «Greenesta» в лице Сматаева Ж.Б., ознакомилось с содержанием образовательной программы бакалавриата направления «6В11236-Охрана труда и защита окружающей среды на транспорте» и внесло следующие рекомендации:

-для улучшения содержания образовательной программы, проводить практические и лабораторные занятия на производстве;

-для включения в образовательную программу бакалавриата направления «6В11236-Охрана труда и защита окружающей среды на транспорте» предлагаются дисциплины: «Экологическая безопасность на транспорте», «Промышленная экология», «Мониторинг окружающей среды», «Промышленный мониторинг»

Генеральный директор  
ТОО «Greenesta»

Сматп



Сматаев Ж.Б.



# АКАДЕМИЯ ЛОГИСТИКИ И ТРАНСПОРТА

## ПРОТОКОЛ №6

заседания Академического комитета по образовательным программам и ведущих преподавателей кафедры «Автотранспортные средства и безопасность жизнедеятельности»

г. Алматы

от «23» февраля 2023 г.

**Председатель:** Шингисов Б.Т.  
**Секретарь:** Куанышбаева А.М.

**Присутствовали:** члены Академического комитета, ведущие ППС кафедры: зав. кафедрой Шингисов Б.Т., ассоц. профессора: Баубеков Е.Е., Тойлыбаев А.Е., Жусупов К.А., Козбагаров Р.А., Есенгалиев М.Н., Копенов Б.Т., Имангалиева А.К., Найманова Г.Т., ассистент профессоры Калиев Е.Б., Бимагамбетова Л.Н., сениор-лекторы: Торгаев А.А., Курмашев Б.Б., Бегимкулова Э.А., Токтамысова Т.Р., специалист Куанышбаева А.М.

**Представители с производства:** Ибраимжанов Жанат Габдулхакович – Главный инженер «Конструкторско-экспериментального центра», Алматинское отделение ГП КТЖ, Бекетов Тасболат Сарсенбаевич – Директор ТОО «Алматы Достык Экспресс», Оспанов Евгений Капсайлеевич – Генеральный директор ТОО «MEGA Моторс», Косымов Куанышбек Турганбекович – Главный менеджер АО НК «Қазақстан темір жолы», Товасаров Адильхан Дадабаевич – к.х.н., генеральный директор института экологических исследований.

**Обучающиеся:** Әбдібек Серік – магистрант группы МН-АДТ-22-1р., Танырберген Дина – студент гр. ПДМ-20-1к., Темірболатова Дильназ – студент гр. ААХ-20-2к., Өтеген Алмас – студент гр. ПДМ-20-1к., Әділжанова Еркежан Әділжанқызы – студент гр. ТЛ-20-2к., Сарсентайұлы Айбек – магистрант гр. МП-АДТ-22-1р., Бексалов Алибек Ильгизович – магистрант гр. МН-АДТ-22-1р., Индемес Бақытжан Жарқынбекұлы гр. МН-АДТ-22-1р.

### ПОВЕСТКА ДНЯ:

1. Пересмотр обновление компетентностной модели выпускника действующим ОП.
2. Рассмотрение возможности включения дисциплины в РУП и КВК/КЭД для ОП приёма 2023 года.

#### По первому вопросу

**ВЫСТУПИЛ:** Зав. кафедрой «АТС и БЖД» Шингисов Б.Т. предложил рассмотреть компетентностную модель выпускника по 3 уровням образования: бакалавриат, магистратура, докторантура, по действующим ОП кафедры «АТС и БЖД»:  
**Бакалавриат:** ОП 6В07118 – Путевые и дорожные машины, 6В07119-Автомобили и автомобильное хозяйство, 6В07134 – Автомобили, путевые и строительные машины, 6В07138-Машиностроение, 6В11236- Охрана труда и защита окружающей среды на транспорте, **Магистратура:** ОП 7М07147 – Автомобили и дорожная техника (профильная, 1,5 года), 7М07148 – Автомобили и дорожная техника (научно-педагогическая, 2 года), 7М11201 – Безопасность жизнедеятельности и защита окружающей среды (профильная, 1,5 года), 7М11202 – Безопасность жизнедеятельности и защита окружающей среды (научно-педагогическая, 2 года).

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:** Представитель работодателей, член АК ОП 6В07118 – Путьевые и дорожные машины, директор ТОО «Алматы Достык Экспресс» Бекетов Тасболат Сарсенбаевич, который охарактеризовал Компетентностную модель выпускника по действующей, как актуальную и отвечающую требованиям рынка труда и предложил оставить без изменений.

**ВЫСТУПИЛ:** Представитель работодателей, член АК ОП -6В11236- Охрана труда и защита окружающей среды на транспорте, Косымов Куанышбек Турганбекович – Главный менеджер АО НК «Қазақстан темір жолы» – который охарактеризовал Компетентностную модель выпускника по ОП 6В11236- Охрана труда и защита окружающей среды на транспорте, как актуальную и отвечающую требованиям рынка труда и предложил оставить без изменений.

**ВЫСТУПИЛ:** Представитель работодателей, член АК ОП 6В07119 – Автомобили и автомобильное хозяйство, генеральный директор ТОО «MEGA Моторс», Оспанов Евгений Каппасайлеевич, который охарактеризовал Компетентностную модель выпускника по действующей ОП 6В07119 – Автомобили и автомобильное хозяйство, как актуальную и отвечающую требованиям рынка труда и предложил оставить без изменения.

**ВЫСТУПИЛА:** Представитель работодателей, член АК ОП 6В07138-Машиностроение - Ибраимжанов Жанат Габдулхакович – Главный инженер «Конструкторско-экспериментального центра», Алматинское отделение ГП КТЖ, который охарактеризовал Компетентностную модель выпускника по ОП бакалавриата ОП 6В07138-Машиностроение, как актуальную и отвечающую требованиям рынка труда и предложила оставить без изменения.

**ВЫСТУПИЛ:** Представитель работодателей, член АК ОП 6В07134 – Автомобили, путьевые и строительные машины, главный инженер ТОО «Алматы жолдары» Жунисбеков Бейбитбек Даулетбакович, который охарактеризовал Компетентностную модель выпускника по ОП 6В07134 – Автомобили, путьевые и строительные машины, актуальную и отвечающую требованиям рынка труда и предложения оставить без изменений.

**ВЫСТУПИЛ:** Представитель работодателей, член АК ОП -7М11201, 7М11202-Безопасность жизнедеятельности и защита окружающей среды, Товасаров Адильхан Дадабаевич – к.х.н., генеральный директор института экологических исследований – который охарактеризовал Компетентностную модель выпускника по ОП -7М11201, 7М11202- Безопасность жизнедеятельности и защита окружающей среды, как актуальную и отвечающую требованиям рынка труда и предложил оставить без изменений

**ВЫСТУПИЛ:** Председатели Академических комитетов по образовательным программам:

**Бакалавриат:**

- 6B07118 – Путевые и дорожные машины – Жусупов К.А.,
- 6B07119 - Автомобили и автомобильное хозяйство- Есенгалиев М.Н.,
- 6B07134 – Автомобили, путевые и строительные машины- Калиев Е.Б.,
- 6B07138 - Машиностроение – Шингисов Б.Т.,
- 6B11236 – Охрана труда и защита окружающей среды на транспорте - Имангалиева А.К.

**Магистратура:**

- 7M07147 – Автомобили и дорожная техника (профильная, 1,5 года) - Есенгалиев М.Н.,
- 7M07148 – Автомобили и дорожная техника (научно-педагогическая, 2 года)-Тойлыбаев А.Е.,
- 7M11201 – Безопасность жизнедеятельности и защита окружающей среды (профильная, 1,5 года),
- 7M11202 – Безопасность жизнедеятельности и защита окружающей среды (научно-педагогическая, 2 года) - Цыганков С.Г.

Все председатели АК подтвердили актуальность Компетентностной модели выпускника по новым и действующим ОП.

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 КОК УМБ института «Транспортная инженерия».

**По второму вопросу**

**ВЫСТУПИЛ:** зав. кафедрой предложением заслушать представителей работодателей и обучающихся по включению новых дисциплин в КЭД и РУП приема 2023 г.

Было отмечено что в текущем учебном году в связи с изменениями в НПА МНВО РК есть необходимость актуализации действующих образовательных программ бакалавриата и магистратуры. Кроме того рассматривается перспектива участия АЛит в различных рейтингах в том числе и QS by Subject, в связи с этим также требуется пересмотр действующих ОП. Предлагается пересмотреть названия дисциплин в соответствии с программами потенциальных международных партнеров, что дает ряд преимуществ в трансфере кредитов и в участии Академии в международных рейтингах; уменьшить количество дисциплин в ОП, тем самым схожие дисциплины укрупнить, что поможет преподавателям сконцентрироваться на одной полной программе дисциплины, нежели разбивать ее на 2-3 логически схожие дисциплины. Рекомендуются выделять на одну дисциплину от 6 до 9 кредитов, что также качественно повлияет на выбор дисциплин студентами компонента по выбору и глубокое погружение в каждый предмет.

**ВЫСТУПИЛ:** Представитель работодателей, член АК ОП 6B07118-Путевые и дорожные машины - Бекетов Тасболат Сарсенбаевич, ТОО «Алматы Достык Экспресс» заинтересованы в специалистах, имеющих хороший уровень практической подготовки и знаний в области эксплуатации и ремонта путевых и дорожных машин. Вносим предложение о внесении в РУП следующих востребованных дисциплин: «Эксплуатация путевых и дорожных машин».

**ВЫСТУПИЛ:** Представитель работодателей, член АК ОП ОП - 6B11236 - Охрана труда и защита окружающей среды на транспорте, Косымов Куанышбек Турганбекович АО НК «Қазақстан темір жолы» заинтересованы и специалистах, имеющих хороший уровень практической подготовки и знаний в области Охрана труда и защита окружающей среды

на транспорте. Вносим предложение о внесении и РУП следующих востребованных дисциплин: «Промышленная экология».

**ВЫСТУПИЛА:** Представитель работодателей, член ОП 6В07119 – Автомобили и автомобильное хозяйство - Оспанов Евгений Каппасайлеевич, который предложил увеличить количество кредитов отводимых на все профилирующих дисциплины, а также увеличить количество кредитов для прохождения производственной практики для бакалавриата.

**ВЫСТУПИЛА:** Обучающиеся члены АК ОП 6В07138-Машиностроение, Эбдібек Серік – магистрант группы МН-АДТ-22-1р, 6В07118 – Путевые и дорожные машины Танырберген Дина – студент гр. ПДМ-20-1к., 6В07119-Автомобили и автомобильное хозяйство Темірболатова Дильназ – студент гр. ААХ-20-2к., 6В11236- Охрана труда и защита окружающей среды на транспорте, Өтеген Алмас – студент гр. ПДМ-20-1к. Считаю необходимым включить в РУП АК ОП 6В07138, 6В07118, 6В07119, 6В11236, следующие дисциплин: «Бизнес аналитика PowerBI» и «Тайм-менеджмент».

**ВЫСТУПИЛ:** Обучающиеся, члены АК ОП 7М07147 – Автомобили и дорожная техника Сарсентайұлы Айбек – магистрант гр. МП-АДТ-22-1р., 7М07148 – Автомобили и дорожная техника Бексалов Алибек Ильгизович– магистрант гр. МН-АДТ-22-1р., 7М11201 – Безопасность жизнедеятельности и защита окружающей среды (профильная, 1,5 года), 7М11202 – Безопасность жизнедеятельности и защита окружающей среды (научно-педагогическая, 2 года) Индемес Бакытжан Жаркынбекұлы гр. МН-АДТ-22-1р. Считаю необходимым включить РУП АК ОП 7М07147, 7М07148, 7М11201, 7М11202 следующие дисциплин: «Бизнес аналитика Power BI» и «Тайм-менеджмент».

**ВЫСТУПИЛИ:** Представитель Председатели Академических комитетов по образовательным

Программам, которые озвучили предложения работодателей изложение в рекомендательных письмах, в также озвучили предложених профессорско-преподавательского состава кафедры «АТСиБЖД»:

- Жусупов К.А.: Предлагается включить в ОП 6В07118 – Путевые и дорожные машины, следующие дисциплин: «Современные путевые и дорожные машины» и «Ресурсосбережение на транспорте».

- Есенгалиев М.Н.: Предлагается включить в ОП 6В07119 - Автомобили и автомобильное хозяйство следующие дисциплины: «Современные технологии на автотранспорте» и «Компьютерная диагностика автомобилей».

- Калиев Е.Б.: Предлагается включить в ОП 6В07134 – Автомобили, путевые и строительные машины» следующие дисциплины: «Современные путевые и строительные машины» и «Триботехника», увеличить количество часов, выделяемых на проведение производственной практики.

-Шингисов Б.Т.: Для включения в образовательную программу 6В07138 - Машиностроение – следующие дисциплины: «Цифровое производство и аддитивные технологии» и «Эксплуатация и ремонт технологического оборудования».

- Имангалиева А.К.: Предлагается включить в 6В11236 – Охрана труда и защита окружающей среды на транспорте следующие дисциплины: «Ресурсосбережение на транспорте» и «Экологизация источников энергии», увеличить количество часов, выделяемых на проведение производственной практики.

**ВЫСТУПИЛИ:** Обучающиеся: Эбдібек Серік – магистрант группы МН-АДТ-22-1р.,  
Танырберген Дина – студент гр. ПДМ-20-1к., Темірболатова Дильназ – студент гр. ААХ-  
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МН-АДТ-22-1р., которые поддержали представленные выше предложения.

**Председатель**

**Секретарь**



**Шингисов Б.Т.**

**Куанышбаева А.М.**



### 15. CHANGES REGISTRATION SHEET

№	Section, paragraph document	Type of change (replace, cancel, add)	Number and date notices	Change made	
				Date	Surname and initials, signature, position