

Ф.7.02-10

MINISTRY OF SCIENCES AND HIGHER EDUCATION OF THE REPUBLIC
OF KAZAKHSTAN

M. AUEZOV SOUTH KAZAKHSTAN UNIVERSITY

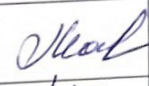
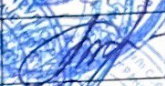


EDUCATION PROGRAMME

6B11210 - Life safety and environmental protection

Registration number	6B11200003
Code and classification of the field of education	6B11- Services
Code and classification of training areas	6B112 – Hygiene and labor protection at work
Group of educational programs	B094- Sanitary preventive measures
Type of EP	Acting EP
ISCE level	6
NQF level	6
SQF of education level	6
Language of learning	Kazakh, Russian, English
The complexity of EP, not less	240 credits
Form of study	-
University partner (JEP)	-
University partner (TDEP)	-

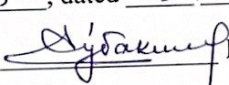
Shymkent 2026

Drafters		sign
Full Name	Position	
Ramatullayeva L.I.	c.t.s., associate Professor, Head of the Department of Life safety and environmental Protection	
Naukenova A. S.	c.t.s., associate Professor of the Department «Life safety and environmental protection»	
Kocherov E.N.	c.t.s., associate Professor of the Department «Life safety and environmental protection»	
Makulbekova G.O.	PhD, associate Professor of the Department «Life safety and environmental protection»	
Yergali A.A.	student group SM-24-9к	
Sermanizov T.K.	Director of the Department of Sanitary and Epidemiological Control of Shymkent	
Agabek A.	Deputy Director of the Shymkent City and Turkestan Region Branch RRIOSH MLSP RK	
Yesenbayev B.A.	General Director of Center for Fire and Industrial Safety LLP	
Zhubaniyazov B.T.	Director of scientific-production center «PromBez-Arh-Stroi-Expert»	
Sulkebaev E.A.	General Directors of Engineering Technical Bureau in Industrial Safety LLP	

The educational program has been updated taking into account the new model of inclusive education and has been agreed upon with the City Department of Employment and Social Protection.

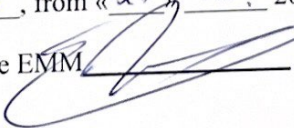
Deputy Head of the Department of Employment and Social Protection of Shymkent _____ K. Kaldykarayev

The EP was considered at a meeting of the Academic Quality Committee of the faculty or the Higher School, Protocol № 3, dated 09.01.2026.

Chairman of the Committee  F. Aubakirova

The EP was considered and recommended for approval at Educational-methodical meeting of M. Auezov SKU

Protocol № 4, from «27» 02. 2026.

Chairman of the EMM  E. Imangaliyev

The EP was approved by the decision of the Academic Council of the University

Protocol № 14, from «26» 03. 2026.

CONTENT

1.	Concept of the Educational program	6
2.	PASSPORT of the Educational program	8
3.	Competencies of an EP graduate	9
3.1	Matrix for correlating learning outcomes in the EP as a whole with the competencies being developed	10
4.	Matrix of the influence of modules and disciplines on the formation of learning outcomes and information on labor intensity	38
5.	Summary table reflecting the volume of disbursed loans by EP modules	39
6.	Strategies, teaching methods and artificial intelligence, monitoring and assessment	40
7.	Educational and resource support for EP	43
	Approval sheet	44
	Appendix 1. Review from the employer	45
	Appendix 2. Expert opinion	46
	Appendix 3. Professional standards	

1. Concept of the Educational program

Mission of the University	We are focused on generating new competencies, training a leader who translates research thinking and culture.
University Values	– Openness - open to change, innovation and cooperation. – Creativity - generates ideas, develops them and turns them into values – Academic freedom - free to choose, develop and act. – Partnership - creates trust and support in a relationship where everyone wins. – Social responsibility - ready to fulfill obligations, make decisions and be responsible for their results.
Graduate Model	– Deep subject knowledge, their application and continuous expansion in professional activity – Information and digital literacy and mobility – Research skills, creativity and emotional intelligence – Entrepreneurship, independence and responsibility for their activities and well-being – Global and national citizenship, tolerance to cultures and languages
Uniqueness of the EP	the program was developed in accordance with the Atlas of New Professions and Competencies, and is aimed at training competent specialists for transport and logistics and scientific and pedagogical structures who are able to organize and manage the activities of a structural enterprise, independently determine the goals of professional activity, choose and justify methods and means to achieve them.
Academic Integrity and Ethics Policy	The university has taken measures to maintain academic integrity and academic freedom, protection from any type of intolerance and discrimination: • Rules of academic integrity (order No. 212 of October 10, 2022); • Anti-corruption standard (order No.9 n/a dated 08/01/2025). • Code of Ethics (Order No. 212 of October 10, 2022)
Regulatory and legal framework for the development of EP	1. Law of the Republic of Kazakhstan “On Education”; 2. Model rules for the activities of educational organizations implementing educational programs of higher and (or) postgraduate education, approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated October 30, 2018 No. 595 with amendments and additions dated December 29, 2021. No. 614 3. Standard rules for admission to training in educational organizations implementing educational programs of higher and postgraduate education, approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated October 31, 2018 No. 600 with amendments and additions dated 06/02/2023. No. 252 4. State mandatory standards for higher and postgraduate education, approved by order of the Ministry of Education and Science of July 20, 2022 No. 2 as reworded by order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated March 04, 2025. No. 90; 5. Rules for organizing the educational process in credit technology of education, approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated April 20, 2011 No. 152; with changes and additions from 09/23/2022. No. 79 6. Qualification reference book for 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 December 30, 2020 No. 553. 7. Methodological recommendations for introducing ECTS principles into the educational process and expanding academic freedom. Appendix to the order of the Minister of Science and Higher Education. of the Republic of Kazakhstan dated February 12, 2024 No. 57 8. Guidelines for the development of educational programs for higher and postgraduate education, Appendix 1 to the order of the Director of the National Center for the Development of Higher Education of the Ministry of Education and Science of the Republic of Kazakhstan dated May 4, 2023 N 601 n/k
Organization of the educational process	– Implementation of the principles of the Bologna Process – Student-centered learning – Availability – Inclusivity
Quality assurance of EP	– Internal quality assurance system – Involvement of stakeholders in the development of the EP and its evaluation – Systematic monitoring – Updating the content (updating)
Requirements for applicants	They are established in accordance with the Standard Rules for admission to training in educational organizations implementing educational programs of higher and postgraduate education by order of the Ministry of Education and Science of the Republic of Kazakhstan No. 600 as reworded by order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 26, 2024. No. 372
Conditions for the implementation of educational programs (EP) for persons with disabilities and special educational needs(SSN)	For students with SEN (special educational needs) and persons with disabilities (PSI), tactile PVC tiles, specially equipped toilets, a mnemonic diagram, and shower bars have been installed in educational buildings and student dormitories. Special parking spaces have been created. Crawler lift installed. There are desks for people with limited mobility (PLM), signs indicating the direction of movement, ramps. In the educational buildings (main building, building No. 8) there are 2 rooms with six working places adapted for users with disorders of the musculoskeletal system (DMS).For visually impaired users, the SARA™ CE Machine (2 pcs.) is available for scanning and reading books. The library website is adapted for the visually impaired. There is a special NVDA audio program with a service. The JIC website http://lib.ukgu.kz/ is open 24/7. An individual differentiated approach is provided for all types of classes and in the organization of the educational process.

2. PASSPORT of the Educational program

Purpose of the EP	Preparation of a leader who translates research thinking in the field of life safety and environmental protection, able to ensure fire, environmental, chemical and radiation safety
Tasks of the EP	• formation of socially responsible behavior in society, understanding the importance of professional ethical standards and following these standards; • providing lifelong learning skills and abilities that will enable them to successfully adapt to changing conditions throughout their professional career; • providing conditions for the acquisition of a high General intellectual level of development, mastering competent and developed speech, culture of thinking and skills of scientific organization of labor in the field of life safety, environmental protection, protection in emergency situations, labor protection, Informatics, enterprise Economics and environmental management; • formation of competitiveness of graduates in the field of safety of technological processes and production, to ensure the possibility of their fastest employment in the specialty or continuing their education in the master's degree; Creating conditions for the formation of in-demand knowledge and skills, a conscious attitude towards improving the well-being of the population and protecting the planet in the context of the SDGs
Harmonization of EP	• 6th level of the National Qualifications Framework of the Republic of Kazakhstan; • Dublin descriptors of the 6th level of qualification; • 1 cycle of a Framework for Qualification of the European Higher Education Area); • 6th Level of European Qualification Framework for Life long Learning).
Connection of the EP with the professional sphere	Professional standard "Safety and Labor protection". Order of the Minister of Labor and Social Protection of the Population of the Republic of Kazakhstan dated December 25, 2024 No. 490.
Name of the degree awarded	After the successful completion of this EP, the graduate is awarded the degree: "Bachelor" in the field of services in the educational program 6B11210 - "Life Safety and Environmental Protection"
List of qualifications and positions	• The graduate is awarded a bachelor's degree in services under the educational program 6B11210 - "Life Safety and Environmental Protection". • Engineer of labor protection departments, environmental departments of enterprises and organizations; • Engineer of institutions involved in environmental monitoring; • Engineer of the expert organization; employees of various services of Civil Defense, Ministry of Emergencies, Ministry of internal Affairs, etc.
Field of professional activity	The sphere of professional activity of graduates will be all sectors of the economy, including the military-industrial complex, industry, agriculture and utilities, production and consumption, government agencies in the field of life safety, environmental protection, protection in emergency situations, environmental services.
Objects of professional activity	The objects of professional activity of bachelors are enterprises and organizations whose main activity is forecasting, liquidation and protection of the population in emergency situations, ensuring safety and environmental protection, development, implementation and operation of technological systems and networks contributing to the prevention of fire, environmental, chemical, and radiation hazards.

Subjects of professional activity	• Expert in the analysis of working conditions factors • Safety and health engineer • Engineer on labor protection and technical safety
Types of professional activity	• industrial-technological; • design; • control and organizational; • experimental research.
Learning outcomes	LO 1 Develop multilingual and multicultural communications to solve problems of interpersonal and professional interaction, demonstrating mastery of the culture of written and oral speech and academic integrity; LO 2 Keep a healthy lifestyle, demonstrate leadership qualities based on the ideas of citizenship and patriotism, modernization of public consciousness - Ruhani Zhangyru, the third modernization of Kazakhstan; LO 3 Reasonably to apply natural-science, mathematical, socio-economic and engineering knowledge in professional activities, as well as methods of scientific research and mathematical data processing; LO 4 Make the competent decisions in non-standard professional situations based on the critical analysis in the field of life safety, hygiene and labor protection at production, environmental protection in emergency situations; LO 5 Develop environmental and technical documentation of enterprises and the necessary activities for the organization and training in the field of civil defense; LO 6 Organize and conduct the search of injured in the rubble, destroyed buildings and structures in the conditions of natural and technogenic emergencies and formations of civil defense forces at carrying out of liquidation tasks; LO 7 Develop activities aimed at identifying and assessing the radioactive, chemical and biological situation in areas of emergency situations; LO 8 Develop measures to minimize and eliminate the impact of negative production factors on the health of employees in the performance of their duties. LO 9 Ability to work as a team in providing of first aid by demonstrating self-education and self-education skills. LO10 Apply digital technologies for a comprehensive assessment of industrial facilities, production facilities and sanitary engineering systems, as well as their compliance with regulatory safety requirements. LO 10 The use of artificial intelligence elements in the adoption of a set of measures aimed at assessing the territories of industrial enterprises, industrial buildings and premises, identifying the compliance of sanitary and technical devices (ventilation, heating, lighting), sanitary and household premises, personal protective equipment with the standards imposed by the Sanitary and Epidemiological Service. LO 11 Ability to analyze and discuss the results of independent experimental and theoretical studies in the development of methods for calculating the risks of industrial injuries and the development of occupational diseases in industrial enterprises.

3. Competencies of a graduate of the EP

GENERAL COMPETENCIES (SOFT SKILLS). Behavioral skills and personal qualities	
GC 1. Competence in managing one's literacy	GC1.1. The ability to learn, self-develop and constantly update their knowledge within the chosen trajectory and in interdisciplinary conditions. GC1.2. Ability to express thoughts, feelings, facts and opinions in the professional sphere. GC1.3. Ability to mobility in the modern world and critical thinking.
GC 2. Language competence	GC2.1. Ability to build communication programs in the state, Russian and foreign languages, taking into account the principles of inclusiveness. GC2.2. Ability to communicate socially and professionally through intercultural communication.
GC 3. Mathematical competence and competence in the field of science	GC3.1. Ability and willingness to apply educational potential, experience and personal qualities acquired during the study of mathematical, natural science, technical disciplines in the university, to solve professional problems.
GC 4. Digital competence, technological literacy	GC4.1. The ability to demonstrate and develop information literacy through mastering and using modern information and communication technologies with elements of artificial intelligence in all areas of life and professional activity. GC 4.1. Ability to demonstrate and develop information literacy through mastering and use of modern information and communication technology in all aspects of their lives and professional activities. GC 4.2. Ability to use various information and communication technologies: Internet resources, cloud and mobile services for the search, storage, protection and dissemination of information.
GC 5. Personal, social and educational competencies	GC 5.1. Capacity for physical self-improvement and orientation towards healthy life to ensure full social and professional activity through physical culture methods and tools. GC 5.2. Capacity for socio-cultural development based on citizenship and morality. GC 5.3 The ability to build a life-long personal educational trajectory for self-development, career advancement and professional success. GC 5.4. The ability to successfully interact in a variety of socio-cultural contexts during study, work, home and leisure.
GC 6. Entrepreneurial competence	GC 6.1. The ability to be creative and entrepreneurial in different environments. GC 6.2. Ability to operate in a mode of uncertainty and rapid change of conditions of tasks, make decisions, allocate resources and manage their time. GC 6.3. The ability to work with the demands of the consumer.
GC 7. Cultural awareness and ability to express oneself	GC 7.1. Ability to manifest a worldview, civic and moral position. GC 7.2. Ability to be tolerant to traditions and culture of other peoples of the world, to possess high spiritual qualities.
PROFESSIONAL COMPETENCE (HARD SKILLS).	
Theoretical knowledge and practical skills specific to this area	PC1. Graduates will have a set of knowledge, practical skills and competencies to demonstrate readiness for professional engineering, management activities in research, technical, commercial areas, including at the international level;
	PC2. The ability of a graduate to search for and obtain new information

	from various sources, integrate knowledge for application in innovative engineering activities based on the use of elements of artificial intelligence and continuous professional improvement.
	PC3. Readiness of the graduate to practical implementation of the acquired knowledge in accordance with the chosen type of professional activity in the field of security.
	PC4. Formulate arguments and solve problems in the field of occupational safety and environmental safety; able to collect and interpret information to form judgments based on social, ethical and scientific considerations.
	PC5. Know the technical characteristics of modern equipment to ensure safe and high-performance working conditions.
	PC6. Be ready to develop normative and technical documentation in the field of life safety and environmental protection.

3.1 Matrix of correlating learning outcomes in the EP as a whole with the formed competencies

	LO 1	LO 2	LO 3	LO 4	LO 5	LO 6	LO 7	LO 8	LO 9	LO 10	LO 11
CC1	+										
CC2	+										
CC3		+		+				+			
CC4			+							+	
CC5				+							
CC6					+						
CC7					+	+		+			
CC8									+		
CC9											+
PC1	+	+	+								
PC2		+					+				
PC3					+					+	
PC4				+		+					
PC5					+	+	+				
PC6						+					+

**4. MATRIX OF THE INFLUENCE OF MODULES AND DISCIPLINES ON THE FORMATION OF LEARNING OUTCOMES
AND INFORMATION ON LABOR INTENSITY**

№	Module	Cycle	Component	Name of discipline	Short description of discipline	Credits	The formed educational outcomes (codes)										
							LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10	LO11
1.	Module of the social science	GED	OC	History of Kazakhstan	The purpose of the discipline is formation of an objective idea of the history of Kazakhstan based on a deep understanding and scientific analysis of the main stages, patterns and originality of the historical development of Kazakhstan. Content. Ancient people and the formation of nomadic civilization. Turkic civilization and the great steppe. Kazakh Khanate. Kazakhstan in the era of modern times. Kazakhstan as part of the Soviet administrative-command system. Declaration of Independence of Kazakhstan. State system, socio-political development, foreign policy and international relations of the Republic of Kazakhstan. Methods and techniques of historical description for the analysis of the causes and consequences of events in the history of Kazakhstan.	5		V							V		
2.			OC	Philosophy	Purpose: The formation of a holistic idea among students about philosophy as a special form of knowledge of the world, about its main sections, problems and methods of studying them in the context of future professional activity. And also the formation of philosophical reflection, introspection and moral self-regulation among students. Contents Emergence of a culture of thinking. Subject and method of philosophy. Fundamentals of philosophical understanding of the world: questions of	5		V									

					consciousness, spirit and language. Being. Ontology and metaphysics. Cognition and creativity. Education, science, technology and technology. Human philosophy and the world of values. Ethics. Philosophy of values. The subject of aesthetics as a field of philosophical knowledge. Philosophy of freedom. Philosophy of art. Society and culture. Philosophy of history. Philosophy of religion. "Mangilik El" and "Modernization of Public Consciousness" are a new Kazakhstan philosophy													
3.	Module of socio-political knowledge	GED	OC	Social and Political Science	Sociology and Political Science The goal of forming knowledge about social and political activities, explaining social and political processes and phenomena. Consideration of the system of socio-ethical values of the society. Ways to use social, political, cultural, psychological institutions, features of youth policy in the modernization of Kazakhstani society and solve conflict situations in society and professional environment based on them. To study the methods of analysis and interpretation of political institutions and processes, ideas about politics, power, state and civil society, to understand and use the methods and methods of sociological, comparative analysis, to understand the meaning and content of the political situation in the modern world. Analysis and classification of the main political institutions. Socialization, identity and deviant behavior: the role of an inclusive approach.	4		V										
4.		GED	OC	Cultural Studies and Psychology	Purpose: the formation of scientific knowledge of history, modern trends, current problems and methods for the development of culture and psychology,	4		V										

					the skills of a systematic analysis of psychological phenomena. Contents: Morphology, language, semiotics, anatomy of culture. Culture of nomads, proto-Turks, Turks. Medieval culture of Central Asia. Kazakh culture at the turn of the XVIII - XIX centuries, XX century. Cultural policy of Kazakhstan. State Program "Cultural Heritage". National consciousness, motivation. Emotions, intellect. The will of man, the psychology of self-regulation. Individual typological features. Values, interests, norms are the spiritual basis. The meaning of life, professional self-determination, health. Communication of the individual and groups. Socio-psychological conflict. Models of behavior in conflict. Social and psychological foundations and development of inclusive culture in modern society; Psychological characteristics and conditions of professional adaptation of persons with disabilities; Psychological support and tolerance as a way of social integration of people with disabilities; Social and psychological barriers to interaction between persons with normal and impaired types of behavior.														
5.	Socio-ethnic development module	GED	EC	Entrepreneurship and Financial Literacy	The purpose: Training skills in entrepreneurial activity organization, in managing personal and family financial resources, which are key to achieving financial well-being. Content: Entrepreneurship: essence, contents and conditions of formation. Legal forms of entrepreneurship. Risks in entrepreneurship. Business planning in entrepreneurship. Organization of entrepreneurial transactions. Culture and	5	V	V											

					ethics of entrepreneurship. Financing of entrepreneurial activity. The concept, goals and objectives of financial literacy. Money, settlements, and payments. Personal finance: income, expenses, budget. Taxes and taxation of individuals. Pensions and insurance. Banking services for the population. Bankruptcy of individuals and financial risks. Pyramid scheme and personal financial security.														
6.				Ecosystems and Law	Purpose: formation of understanding in the analysis of environmental problems of industrial complexes, ecosystem approach and its regulation in law, ecosystem in environmental protection and natural resource legislation. Content: Knowledge of the basic concepts and laws of ecological systems, its meaning and functions. Formation of understanding in the analysis of environmental problems of industrial complexes, the ecosystem approach and its regulation in law, the ecosystem in environmental and natural resource legislation. Demonstrates knowledge of the basics of modern economic thinking, legal mechanisms for conservation and restoration in the field of life safety and environmental protection. Legal basis of artificial intelligence. Inclusion - strategy of international legislation.														
7.		BD	EC	Basics of Artificial Intelligence	Purpose: formation of an anti-corruption worldview, strong moral foundations of a personality, civic position, stable skills of anti-corruption behavior. Content: Overcoming legal nihilism, formation of the basics of students' legal culture in the field of anti-corruption legislation. Formation of a conscious perception/attitude towards corruption.	3	V	V											

					Moral rejection of corrupt behaviour, corrupt morality and ethics. Development of skills necessary to fight corruption. Development of anti-corruption standards of conduct. Application of artificial intelligence in combating corruption. Anticorruption propaganda, dissemination of lawfulness and respect for the law. Activities aimed at understanding the nature of corruption, awareness of social damage caused by its manifestation, ability to defend one's position with arguments, seeking ways to overcome manifestation of corruption.														
8.				Abay Studies	Purpose: based on the creativity of A.Kunanbayev, the preservation of the «national code» and in the project «Kazakhstan» Contents: historical overview of the history of Kazakhstan and Kazakh literature of the XIX-XX centuries. Studies of Abai's legacy of the XX-XXI century. Chronology of Abai's creativity. Abai is a great poet, ethnographer, founder of Kazakh written literature. Abai is the compiler of the code of laws «The Position of Karamola», social significance. Abai is a thinker, religious scholar, philosopher. The role of Abai in education and science, the concept of a «Holistic person». «Words of Edification» by Abai, an epic novel by M.Auyezova «The Way of Abai» . K. Tokayev «Abai and Kazakhstan in the XXI century», role, significance.		V	V											
9.				Foundations of Anticorruption Culture	Purpose: development of a set of competencies in the field of using knowledge, skills and practical application of software tools and methods of artificial intelligence, development of a holistic view of the current state of the theory and		V	V											

					complexes, consisting of spheres, themes, sub-themes and typical situations of communication of the international standard: social, social - cultural, educational and professional, modeled by forms: oral and written communication, written speech works, listening. Demonstration of understanding of the language material in the texts on the educational program, knowledge of terminology and development of critical thinking.														
12.		GED	OC	Foreign Language	The aim is a formation of students' intercultural and communicative competence in the process of foreign language education at a sufficient level A2 and a level of basic sufficiency B1. Student reaches B2level of common European competence if the language level at the start is higher than B1level of common European competence Content: Levels A1, A2, B1, B2 are presented in the form of cognitive-linguocultural complexes, consisting of spheres, themes, sub-themes and typical situations of international standard'scommunication: social, social - cultural, educational and professional, modeled by forms: oral and written communication, written speech works, listening. Demonstration of language material'sunderstanding in texts on educational program, knowledge of terminology and critical thinking development.	10	V												
13.		GED	OC	Physical Training	Objective: the formation of social and personal competencies and the ability to purposefully use the means and methods of physical culture that ensure the preservation and strengthening of health in preparation	8	V												

					for professional activity; to the persistent transfer of physical exertion, neuropsychic stresses and adverse factors in future work. Implementation of physical culture and health and training programs. A complex of general development and special exercises. Sports (gymnastics, sports and outdoor games, athletics, etc.). Control and self-control during classes, insurance and self-insurance. Refereeing competitions, Means of professionally applied physical training. Modern health-improving systems: the breathing system according to A. Strelnikova, K. Buteyko, K. Dinaiki, joint gymnastics according to Bubnovsky.													
14.		BD	HsC	Professionally Oriented Foreign Language	Purpose: formation of professionally-oriented language communicative competence of students, which will allow them to integrate into the international professional environment and use English in scientific and scientific-practical work, in communication with foreign colleagues. Content: Hypotheses, Theories and Laws. The greatest chemist in the world. Periodic table of elements. Oxygen: History and origin. Ozone: properties, toxicity and applications. Hydrogen. The essential element for life processes. Contemporary British and American education. Russian education. Kazakh education. The place where you can live. My city. Great Britain. Russian. Our food. Chemistry and its branches. Sections of chemistry. Famous chemists. Gas chromatography. Biochemistry. Biochemical way of sand processes. Biophysics. Three sections of biophysics. Perspectives of biophysics. Physical and chemical methods of analysis. The main equipment of the laboratory of biochemistry.	3	V											

15.		GED	OC	Information and Communication Technologies (in English)	Purpose: formation of the ability to critically evaluate and analyze processes, methods of searching, storing and processing information, methods of collecting and transmitting information through digital technologies. Development of new "digital" thinking, acquisition of knowledge and skills in the use of modern information and communication technologies in various activities. Content: Introduction and architecture of computer systems. Software. Operating systems. Human-computer interaction. Database systems. Data analysis. Data management. Networks and Telecommunications. Cybersecurity. Internet technologies. Cloud and Mobile technologies. Multimedia technologies. Smart technology. E-technologies. Electronic business. Electronic government.	5			V										
16.	Specialty Basics Module	BD	HsC	Mathematics	Purpose: forms and demonstrates the ability to work independently for cognitive activity, use the laws and methods of mathematics in solving professional problems. Content: Elements of linear algebra and analytic geometry. Coordinate systems in space. Differential and integral calculus of a function of one variable. Investigation of functions with the help of a derivative. Determinants of higher orders. Sum and product of matrices. Matrix rank. Solving systems of linear equations. The product of vectors. Various equations of the line and plane. Limit and continuity of a function. Breakpoint classification. Function differentiation rules. Geometric and mechanical meaning of the derivative. Function differential. Arithmetic operations on complex numbers. Basic methods of function integration.	5			V										

19.		BD	HsC	Standardization, Certification, and Metrology	Purpose: formation of theoretical knowledge and practical skills in the field of standardization, certification and metrology to solve problems of ensuring the uniformity of measurements and quality control of products, services and works in their professional activities Content: Objects of standardization, certification and metrology. Legislative and regulatory framework for standardization, technical regulation, metrology and conformity assessment systems. General scientific and special methods of standardization. Certification and declaration schemes. Methods and types of measurements. Calculation of errors and uncertainty of measurements. Technical basis of metrology. The role of international management systems in improving the competitiveness of enterprises.	4			V	V										
20.		BD	HsC	Engineering Mechanics	Purpose: formation of theoretical knowledge on the basics of classical mechanics, strength of materials, design and design of machine parts and assemblies used in the metallurgical industry. Contents: Statics. Kinematics. Dynamics. Fundamentals of calculations of structural elements for strength and rigidity. Stretching and compression. Shear and twist. Sustainability. The main elements of the block diagram. Kinematic pairs, chains and their classification. Types of mechanisms. The principle of formation of flat mechanisms. Criteria for performance of structural elements. Machine design stages. mechanical transmissions. Shafts and axles. Shaft supports. Connections of machine parts. Accuracy of parts production.	4			V											

21.	Specialty Basics Module	BD	EC	Introduction to the Specialty	Purpose: Stimulation of interest in the chosen profession, formation of a worldview among students that contributes to a conscious attitude to training sessions, as well as to modern ways of obtaining professional knowledge. Content: The main provisions of the Constitution of the Republic of Kazakhstan, legislative and regulatory and technical acts in the field of life safety, environmental protection, as well as rational nature management and protection in emergency situations. General rules of conduct in emergency situations.	3													
22.				Fundamentals of Academic Writing	Purpose: formation of professional and expansion of communicative competencies related to analytical textual activity; the formation of students' ability to express and justify their thoughts through a short, fairly convincing scientific text. Content: Terminological system in the field of life safety and environmental protection. Methods for the integrated development of speech professional competence. Practical skills of professional communication in English to develop the student's language readiness in order to successfully master special disciplines.		V	V											
23.				Educational Practice	The purpose of the practice is to familiarize students with the material and technical resources of the laboratory of the department, as well as with professional tasks. The educational practice includes theoretical classes, excursions around the university, familiarization with the library and electronic resources, and ends with the preparation of a practice report and its defense.	1		V			V								

24.		PD	HsC	Technical Regulation of the Industrial Safety	Purpose: formation of knowledge in the field of technical regulation and industrial safety, application of technical regulations, standards and requirements of the legislation of the Republic of Kazakhstan. Content: Legislative bases of technical regulation and industrial safety in the Republic of Kazakhstan. Technical regulations, standardization and conformity assessment. Industrial safety requirements for hazardous production facilities. Assessment of production risks and production control. State supervision and responsibility for violations of industrial safety requirements.	4				V	V							
25.		PD	HsC	Bases of Radiation Safety	Purpose: theoretical and practical training of students on radiation safety issues, ensuring of safe work with sources of ionizing radiation, their dosimetry and control. Basis of dosimetry of ionizing radiation, radiation safety. Content: General concepts of radioactivity. Dosimetry of ionizing radiation. Interaction of radioactive radiation with biological objects. Methods and devices for radiation monitoring. Protection against ionizing radiation. Ensuring radiation safety in case of working with sources of ionizing radiation.	5						V						
26.		BD	HsC	Life Safety	Purpose: to familiarize students with the basics of safe human interaction with the environment and the basics of protection from negative factors in dangerous and extremely dangerous situations. Content: Legislative and legal acts in the field of life safety. Tasks, principles of functioning of civil defense (CS) in the Republic of Kazakhstan. Classification of hazardous and harmful factors. Radiation and chemical hazard. The current state of	4					V	V			V			

					the technosphere. Protection of person and the environment from harmful and dangerous factors of natural and technogenic origin.														
27.				Theoretical Bases and Patterns of Environmental Protection	Purpose: providing professional activities with basic knowledge, mastering the basic laws of engineering environmental protection, the characteristics of environmental pollution and the main methods of its protection. Content: General principles of intensification of technological processes of environmental protection. Protection from energy influences. Chemical processes of environmental gas emissions and liquid emissions. Hydromechanical clearing processes. Physical and chemical processes of environmental protection. Biochemical processes of environmental protection.					V	V								
28.		PD	EC	Environmental Engineering	Purpose: to form in students a systematic understanding of the theoretical foundations for the creation of resource-saving technologies, environmentally friendly industrial production, the implementation of engineering and environmental solutions for environmental management and environmental protection. Content: Design of technological processes for the purification of industrial emissions. Purification of gases in dry mechanical dust collectors. Filtration of gas through porous partitions. Purification of gases in electrostatic sedimentation tanks. Purification of gases in wet dust collectors. Hydromechanical methods of wastewater treatment.	4				V	V								
29.	Module of the organization of legal and engineering labor	BD	EC	Engineering Systems, Nets and Equipments	Purpose: mastering of the basic theoretical knowledge of the fundamentals of heat engineering, heating, ventilation, heat and gas supply and the skills to apply them to														

	protection				solve theoretical and practical problems. Content: Basic schemes of the water supply and water consumption system. Tracing of thermal networks of gas supply, gas distribution networks. Classification of ventilation systems equipment for ventilation and air conditioning systems. Construction of elevators and escalators. Application of artificial intelligence elements in electrical grid systems. Electrical network systems. Telephone exchanges and networks. Noise and vibration control devices.	5											V	
30.				Engineering Systems, Networks of Cities and Towns	Purpose: organization and design of engineering systems of cities. Modern water supply systems. The main schemes of the water supply and water consumption system. Water supply sources. Classification of water supply networks. Contents: Tracing of thermal gas supply networks, gas distribution networks. Classification of ventilation systems of ventilation and air conditioning equipment. Construction of elevators, lifts and escalators. Electrical network systems. Sources of electricity. Telephone exchanges and networks. Noise and vibration level monitoring devices.												V	
31.		BD	EC	Legislative Acts in the Field of Safety and Labor Protection	Purpose: to familiarize students with legislative acts in the field of occupational safety and health. Content: Analysis of the current state of occupational safety and health. Human labor activity. Basic security principles. Basic conditions of labor law. Areas of safety and state regulation of labor protection. Duties and responsibilities of employees to comply with occupational safety and health requirements and labor discipline.	4				V							V	V

					Basic protection measures against electric shock. First aid to an electric shock victim. First aid measures.														
35.	Safety and control module of technological systems and equipment by industry	PD	EC	Methods and Means of Control and Monitoring of Environment	Objective: to gain theoretical and practical knowledge about environmental and natural resources monitoring. Contents: Classification of measuring and control instruments. Types of methods and means of measurement and control. Standardization of metrological characteristics and accuracy classes of monitoring and measuring instruments, measurement errors and measuring devices. Verification of control and measurement tools. Requirements for the selection of exemplary measuring instruments for accuracy. Types of verifications. Carrying out and registration of the verification process.	5				V	V							V	
36.				Industrial Safety, Measurement Control Methods and Means	Purpose: to familiarize students with the measurement and control of possible hazards arising from technical processes. Contents: Study of microclimate parameters. Monitoring the efficiency of ventilation systems. Determination of the performance of dust collecting systems. Methods of control of means of illumination, noise and vibration levels. Methods and means of monitoring life safety measurements. Parameters of technical means and technical equipment. Classification of measuring and control devices. Types and methods of measurement and control tools.					V	V		V						
37.		BD	EC	Safety of Engineering and Technology	Purpose: to familiarize with the methods of assessing the safety of technological equipment, to study the existing means of protection during the operation of production equipment. Content: Principles of security. Dangerous							V							V

					and harmful production factors. Occupational safety during mechanization and automation of production. Safety of electric and gas welding works. Types of electric and gas welding works. Ventilation of workplaces during electric and gas welding. Safety of operation of lifting and transport machines and mechanisms.	5													
38.				Technical Systems Reliability and Risk Management	Purpose: to give students an idea of the need to use the reliability of technical systems and risk management Content: Reliability of technical systems. Identification of hazards associated with the operation of technical systems. Accidents and incidents. Risk assessment. Elements of risk. Aspects taken into account when assessing risk elements. Reliability of protective measures. The possibility of installing protective devices. Quantification of risk. Achieving risk reduction. Preliminary risk analysis.										V			V	
39.		PD	EC	Safety of Technological Processes and Productions in the Oil and Gas Sector	Purpose: formation of students' professional knowledge and skills to solve practical problems on the safety of technological processes and productions in the oil and gas complex. Contents: Fundamentals of safety of technological processes and productions in the oil and gas complex. Basic information about oil and gas refining processes. Emergency situations and ways to eliminate them. Auxiliary equipment safety rules during maintenance. Protection of combined installations from fires and explosions. Fire extinguishing means.	5							V			V			
40.				Safety of Technological Processes and Production in the	Purpose. formation of students' in-depth professional knowledge of the organization of safe mining operations training of specialists who know the scientific and						V								

				Mining Industry	engineering fundamentals of occupational safety and industrial safety management. Content: Methodological foundations of security. Dangerous production. Principles and methods of security. Harmful and dangerous factors of production and their impact on the human body. Rationing and assessment of the hazard potential. The human factor and the production environment. Dangerous human actions. Mining.												V	
41.	Occupational safety and industrial toxicology module	BD	H ₅ C	Labour Protection	Purpose: formation of knowledge and skills in the field of labor protection, prevention of industrial risks, ensuring safe working conditions and preserving the health of employees in accordance with the legislation of the Republic of Kazakhstan. Contents: Basic concepts of occupational safety and industrial safety. Legislative and regulatory acts of the Republic of Kazakhstan in the field of labor protection. The Labor Code of the Republic of Kazakhstan. The rights and obligations of employees and employers. Organization of the occupational safety system at the enterprise. Identification of hazards and assessment of occupational risks. Means of individual and collective protection. Supervision and control over compliance with labor protection requirements. Training of employees in safe working methods.	5								V				
42.		PD	H ₅ C	Basics of Industrial Toxicology	Purpose: formation of knowledge about the effects of harmful and dangerous substances on the human body, methods of assessing toxicity and measures to prevent occupational poisoning to ensure safe working conditions. Content: Fundamentals of industrial toxicology. Dangerous and harmful substances, their classification and effects	6								V				

					on the human body. Sources of toxicants entering the environment. The concepts of toxicity and carcinogenicity of substances. Maximum permissible concentrations (MPC) of harmful substances. Methods of control and prevention of exposure of toxic substances to workers. Protective equipment and safety requirements when working with hazardous substances.													
43.		PD	H ₅ C	Basics of Chemical and Biological Safety	Purpose: correct determination of the action of toxic and hazardous substances, allowing to prevent conditions in which their use is possible without harm to workers. Content: The main stages of industrial toxicology development. The tasks of industrial toxicology. Hazardous and harmful substances. Ecotoxicology, modern understanding of toxicity and carcinogenicity of elements and their compounds. The main natural sources of toxicants entering the environment. Classification of harmful substances by the degree of impact on the human body. Maximum permissible concentration (MPC) of a harmful substance.	6								V				
44.		PD	EC	Industrial Sanitation	Purpose: developing students' thinking on safety priorities when solving engineering problems; studying the main aspects of ensuring human chemical safety. Content: Chemical and biologically hazardous technological processes, machinery and equipment that pose a danger to human health and the environment. Chemically hazardous facilities in the Republic of Kazakhstan and issues related to their operation. Environmental consequences of chemical and biological pollution of the environment. Methods for determining the state of atmospheric air. Methods for monitoring the	4								V			V	

					state of the soil cover. Methods for analyzing natural and waste water, solid municipal and industrial waste. Measures to ensure the safety of chemical-technological systems.														
45.				Industrial Ventilation	Objective: to study the aerodynamics of ventilation flows, aerodynamic drag of air ducts, traction sources, ventilation networks, air distribution control in the ventilation network, local ventilation, technical testing and operation of ventilation systems.												V		
46.				Industrial Practice I	The purpose of the practice is to familiarize with the production technology and the organization of work of safety and environmental protection services at enterprises. The places of practice can be enterprises and organizations of the region, city. Acquired skills and competencies, knowledge of collecting a package of applied computer programs, knowledge of regulatory and legislative acts of the Republic of Kazakhstan in the field of emergency situations.	5					V			V					
47.	Emergency Preparedness	BD	EC	Ways of Human Survival in Extreme Situations	Purpose: to equip students with knowledge and methods of autonomous human survival in extreme situations. Content: Organization and scope of first aid and first aid in emergency situations. Sanitary-hygienic and anti-epidemic measures in emergency situations. Protection of the population, patients and employees of the disaster medicine service in emergency situations basic principles and methods of protection in emergency situations. Emergency medical assistance to victims in emergency cases.	4										V			
48.				Decisions Management in Extreme	Purpose: to equip students with knowledge and methods of autonomous human survival in extreme situations.											V			

				Situations	Contents: General information about emergencies possible in various regions of the Republic of Kazakhstan. Classification of emergency hazards. Assessment, analysis and classification of the causes of emergencies. Characteristics of radioactive contamination zones. Concepts about highly toxic substances (HTS). Zones of infection of HTS. The device of intelligence of determination of HTS elimination of consequences. Means of collective protection. Shelters, anti-radiation shelters, the simplest shelters. Personal protective equipment.														
49.				Civil Defence Subdivisions and Organs Activity	Purpose: to provide students with theoretical knowledge and practical skills in planning, preparing and conducting civil defense and public protection activities. Content: Regulatory and legal support of civil defense. Organization of emergency rescue and other urgent work in hotbeds. Organization of evacuation events for the public. Modern means of destruction and their damaging factors. Personal protective equipment. Means of collective protection. Disinfection and sanitation facilities. Technical means of intelligence and control.	4					V	V							
50.		BD	EC	Emergency Rescue and Emergency Recovery Work	Purpose: to form students' readiness for quick, decisive and proactive actions in accordance with the current operational situation. Content: Basic concepts of legislative acts in the field of Civil protection and emergency situations. The main types of search for people in 1 rubble of destroyed buildings. Tactical techniques (schemes) of canine search. Unblocking of victims. Rescue operations during the elimination of industrial accidents and catastrophes. The main types of rescue operations and actions						V	V							

					of rescuers in extinguishing fires.														
51.				Industrial Practice II	Content. The atmosphere of industrial enterprises. Aerodynamics of ventilation flows. Aerodynamic resistance of air ducts. Sources of traction. Ventilation networks. Control of air distribution in the ventilation network. Local ventilation. Technical testing and operation of ventilation systems.	6				V									
52.	First aid module	PD	EC	Occupational Injuries and Occupational Diseases	Purpose: to acquire knowledge on the analysis of the causes of occupational injuries, the development of measures to reduce it and improve the social security of employees. Content: Reliability of technical systems. Reliability indicators. Physical causes of damage and failures. Reliability of objects' operation until the first failure. Reliability of the objects being restored. Reliability of systems. The concept of risk and its classification. The structure of technogenic risk. Ensuring the safety of technical systems. Regulation (rationing) of risk.	5				V					V				V
53.				Infectious Diseases and Occupational Diseases	Purpose: To acquire a complex of knowledge about the main provisions in occupational pathology and the formation of practical skills and abilities to correctly diagnose an occupational disease. Contents: Specific and non-specific prevention. Flu and other acute respiratory infections. Diphtheria in adults. Epstein-Barr infection. Meningitis (serous, purulent); meningococcal infection, West Nile fever, listeriosis. Viral hepatitis (B, C, D, G). Rickettsiosis. Systemic borreliosis (Lyme disease). Tick-borne encephalitis. Viral encephalitis. Hemorrhagic fevers; Leptospirosis. Chlamydia (ornithosis). Rabies. Malaria. HIV infection. The plague. Tularemia. Brucellosis. Herpes infections. Erysipelas. Anthrax.					V									

54.		PD	EC	Medicines of Catastrophes	Purpose: formation of students' knowledge about the basics of protecting the population in emergency situations, providing first and first aid to the population. Content: The task of the disaster Medicine Service. Medical and tactical characteristics of accidents at fire and explosive objects. Medical and tactical characteristics of natural disasters. Medical and tactical characterization of zones of radioactive contamination in case of accidents at radiation-hazardous facilities. Medical and tactical characterization of lesions with toxic potent substances and epidemic foci. Organization and scope of first medical and first aid in emergency situations.	4										V			
55.				Psychological Stability in Emergency Situations	Purpose: to form a holistic view of the psychology of crisis and extreme situations as a necessary element of successful professional activity. Content: Subject "Psychological stability in emergency situations". Psychology of risk. Emergencies and psychogenic disorders. Psychological effects on people in emergency situations. Psychology of a group in an emergency. Socio – psychological deviations in emergency situations. Socio – psychological deviations in emergency situations.					V					V				
56.	Fire fighting module	BD	EC	Rescue Appliances and Fire Technical Equipments	Purpose: formation of a holistic understanding of the psychology of crisis and extreme situations as a necessary element of successful professional activity. Content: "Psychological stability in emergency situations". Psychology of risk. Emergencies and psychogenic disorders. Psychological impacts on people in emergency situations. Group psychology in emergency situations. Social and psychological deviations in emergency	5								V					

					public and industrial buildings, contributing to fire safety. Fire safety requirements for master plans of industrial enterprises, planning and development of cities and settlements.														
60.		BD	EC	Fire Safety Basics	Purpose: To study the general concepts of fire and explosion safety, knowledge of the theoretical foundations of the gorenje process and modern methods of fire extinguishing. Contents: Examines the general concepts of fire and explosion safety, studies the theoretical foundations of the gorenje process and modern methods of fire extinguishing, which is supplemented by practical and laboratory classes with an assessment of the fire situation, on the basis of which the category of fire is determined, the type of extinguishing agent used, the required number of units of fire fighting equipment, the time of extinguishing the fire.	4						V							
61.				Fire Extinguishing at Different Objects	Purpose: formation of students' basic skills of tactical training in extinguishing fires at facilities. Content: Extinguishing fires at various facilities. Patterns of fire development. Gorenje gorenje information, types and conditions of combustion. Cooling, insulating, diluting extinguishing agents. Extinguishing agents of chemical origin. Classification of fires and methods of extinguishing them. Extinguishing fires in industrial buildings. Extinguishing fires at transport facilities. Fire extinguishing at rural facilities.					V		V							
62.		BD	EC	Fire Water Supply	Purpose: formation of students' theoretical knowledge and practical skills in the field of planning, preparation and implementation of civil defense measures, measures to	4													

					protect the population. Content: Regulatory and legal support of civil defense. Organization of emergency rescue and other urgent work in the foci. Organization of evacuation events for the population. Modern means of destruction and their damaging factors. Personal protective equipment. Means of collective protection. Disinfection and sanitation facilities. Technical means of intelligence and control.													V	
63.				Fire Safety Engineering Structures	Objective: to acquire the necessary theoretical knowledge and practical skills in the field of fire protection of buildings and structures, building structures and materials. Contents: Internal fire-fighting water supply. Sprinkler and drencher equipment. Installation of carriage barrels. Indicators of reliability of water supply systems. Ways to ensure the reliability of water supply systems. Conducting an examination of project materials. Conducting a survey of fire-fighting water supply systems. The main legislative, regulatory, legal documents in the field of fire safety.									V					
64.	Strategic security	PD	EC	Regional Security of Strategic Facilities of the Republic of Kazakhstan	Purpose: to develop the student's knowledge of regional provision of safe strategic facilities and protection of the population in emergency situations. Content: Legal issues in the field of labor safety in construction and organization of safe working conditions. Fundamentals of industrial sanitation and labor hygiene of technological processes and production in the construction industry. Injuries, analysis of causes. Measures to prevent and eliminate injuries. working conditions of technological processes and production in the construction industry.	5								V	V				

					Analysis of technogenic risk at the design stage. Analysis of technogenic risk at the operational stage.														
68.	Module of new professional competencies acquisition	PD	EC	Subjects on the Additional Educational Program	Objective: to develop additional professional competencies to ensure the sustainable development of industry. Content: Additional educational program (Minor) (minor) – a set of disciplines and (or) modules and other types of educational work determined by the student for study in order to form additional competencies.	12									V				
69.	Module of Final Certification			Predegree or Industrial Practice	Independently delve into complex technological objects of various industries and skillfully use the acquired knowledge in production conditions; assess the reliability of the results obtained and critically compare them with similar results of domestic and foreign works	10					V								V
70.				Writing and Defending a Thesis, a Graduate Work, or Preparing and Passing a Comprehensive Exam	The thesis is the last academic work of the student, which has a research character and sums up the entire study at the university. In the thesis, the graduate proves that he is familiar with bibliography, is able to independently find sources, conduct experiments, analyze results and summarize materials, has the skills to study literature and demonstrates the ability to competently formulate and present his thoughts and conclusions.	8											V		V
						240													

5. SUMMARY TABLE ON THE VOLUME OF DISBURSED LOANS IN THE CONTEXT OF EP MODULES

course of study	semester	the number of mastered modules	the number of studied disciplines			number of KZ credits						total hours	total KZ credits	the number of	
			OC	HSC	EC	Theoretical training	Minor program	physical training	educational practice	industrial practice	final examination			exam	diff.credits
1	1	4	4	2	1	28		2				900	30	6	1
	2	4	3	3		27		2	1			900	30	5	3
2	3	6	2	2	3	28		2				900	30	5	2
	4	6	4	1	1	23		2		5		900	30	5	2
3	5	5		3	4	30						900	30	6	1
	6	4			4	12	12			6		900	30	3	1
4	7	4		1	3	21						630	21	4	
	8	5			5	21						630	21	5	
	9	1								10	8	540	18		1
total		39	13	12	21	190	12	8	1	21	8	7200	240	39	11

6. Strategies, teaching methods and artificial intelligence, monitoring and assessment

Learning strategies	Student-centered learning: The student is the center of teaching/learning and an active participant in the learning and decision-making process. Practice-oriented training: orientation to the development of practical skills.
Teaching methods	Conducting lectures, seminars, various types of practices with: • the use of innovative technologies; • problem-based learning; • case study; • work in a group and creative groups; • discussions and dialogues, intellectual games, olympiads, quizzes; • reflection methods, projects, benchmarking; • Bloom's taxonomies; • presentations; • * rational and creative use of information sources; • * multimedia training programs; • * electronic textbooks; • * digital resources. • * machine learning methods Organization of independent work of students, individual consultations.
Monitoring and assessing the achievability of learning outcomes	Current control on each topic of the discipline, control of knowledge in classroom and extracurricular activities (according to the syllabus). Assessment Forms: • survey in the classroom; • testing on the topics of the academic discipline; • test papers; • protection of independent creative works; • discussions; • trainings; • colloquia; • essays, etc. Midterm control at least two times during one academic period within the same academic discipline. Intermediate attestation is carried out in accordance with the working curriculum, academic calendar. Forms of conducting: • exam in the form of testing; • an oral exam; • a written exam; • combined exam; • protection of projects; • protection of practice reports. Final state attestation.

7. EDUCATIONAL AND RESOURCE SUPPORT OF THE EP

Information Resource Center	The structure of the Educational Information Center includes 6 subscriptions, 16 reading rooms, 2 electronic resource centers (ERC). The basis of the network infrastructure of the Educational and Information Center is 180 computers with Internet access, 110 workstations, 6 interactive whiteboards, 2 video doubles, 1 video conferencing system, 3 A-4 formats canners, JIC software - AIBS "IRBIS-64" under MS Windows (basic set of 6 modules), stand-alone server for uninterrupted operation in the IRBIS system. The library fund is reflected in the electronic catalog available to users on the site http://lib.ukgu.kz on-line 24 hours 7 days a week. Thematic databases of their own generation: "Almamater", "Proceedings of SKSU scientists", "Electronic archive" have been created. Online access from any device 24/7 via the external link http://articles.ukgu.kz/ru/ppp. Catalogs are processed electronically. EC consists of 9 databases: "Books", "Articles", "Periodicals", "Proceedings of the teaching staff of SKSU", "Rare Books", "Electronic Fund", "SKU in Print", "Readers" and "SKU". The EIC provides its users with 3 options for accessing its own electronic information resources: from the "Electronic Catalog" terminals in the catalog hall and in the EIC subdivisions; through the information network of the university for faculties and departments; remotely on the library website http://lib.ukgu.kz/. Open access to international and republican resources: "Springer Link", "Polpred", "Web of Science", "EBSCO", "Epigraph", to electronic versions of scientific journals in the public domain, "Zan", "RMEB", "Adebiet", Digital library "Aknur press", "Smart-kitar", "Kitar.kz", etc. For people with special needs and disabilities, the library website has been adapted to the work of visually impaired users.
Material and technical base	The material and technical base of the educational program 6B11210 "Life safety and environmental protection" currently consists of three academic buildings, which house a library, reading and subscription halls, laboratories, specialized classrooms and classrooms equipped with modern technical training facilities. The laboratories have an aquadistillator DE-25 "SPb", a thermostat, an electric microscope N.A.125, laboratory scales square VLKT-500, a dose rate meter (X-ray meter) DP-5B, a dosimeter DRGZ-02, a manual cup anemometer MS-13, a meteorological aneroid type barograph M-22, an aspiration psychrometer MV-4M, current measuring tongs, infrared gas analyzer PGA-7, psychrometric hygrometers VIT-1, laboratory pH meter millivoltmeter pH-121, luxmeter Yu117, luxmeter type Yu-16, apparatus for determining the flash point in a closed crucible TV-3, ionometric converter I-500 "Aquilon". Analytical instrument I-160 MI (laboratory ionomer), Computer included, Robot Simulator, (2dana), Direct-indicating Dosimeter, Thermal imager, Radiometer, Noise meter VSV-003,

	Electric aspiration meter M-34M, Direct-indicating Dosimeter, Computer system unit, Samsung LED monitor 23(58), pH meter pH-222.2 to determine the acidity and alkalinity of solutions, a fume hood. All computer classes are equipped with new generation computers and LCD monitors, connected to a local network and connected to the Internet, the services of which all employees and students use for free and without time limit. The departments of "Life Safety and Environmental protection" are equipped with computers, printers, audio-video equipment. Interactive whiteboards, multimedia projectors, panoramic screens are available for classes. The classroom fund, which includes lecture halls, seminar rooms, laboratory facilities, workplaces for students, as well as facilities, tools and equipment, modern instrumentation, meet the requirements of each implemented educational program. According to all requirements and indicators, such as illumination, acoustics, temperature, technical equipment, environmental and aesthetic indicators of the classrooms are comfortable and comply with sanitary and epidemiological norms and rules. At the Department of Life Safety and Environmental Protection, the educational process and scientific research are carried out in two laboratories and two subject classrooms, including a computer classroom. The computer classroom of the department is equipped with 13 computers, two interactive whiteboards that allow the use of information technology in the performance of laboratory and practical classes, diploma and term papers, as well as in the preliminary defense of master's and doctoral dissertations. The material and technical base makes it possible to ensure the qualitative growth of the human capital of the region, through the development of an innovative scientific and educational environment and the training of competitive highly qualified personnel with high personal and professional competencies in accordance with the needs of the market. Laboratory base and educational and scientific production complex (bases of the State Institution "Kazselezashchita" Turkestan region, LLP Scientific and Production Center "PromBez–Archstroy-Expert", LLP "Petro Kazakhstan Oil Products", LLP "Center for Fire and Industrial Safety", LLP "Asiatehpzhservice", Department of Emergency Situations of the Turkestan region of emergency Situations) of the department it gives students the opportunity to actively engage in the educational and research work of students (UIRS), research work (R&D) under the guidance of teachers. The results of the research are published in scientific journals and collections of international scientific and practical conferences. Research works are being introduced into production. Systematic work is being carried out to update and improve the material and technical base of the department. The department annually draws up applications for the purchase of necessary laboratory equipment. The financial and administrative policy implemented by the university management is aimed at implementing the strategic plans
--	---

	and mission of the M.Auezov South Kazakhstan State University of the goals and objectives of educational programs.
--	--

Classroom	Types of educational work	Square
314 – computer class	Conducting lectures, practical work, certain types of laboratory work, equipped with an interactive whiteboard, conducting computer graphics classes	36 m ²
309 – electrical safety laboratory	Conducting lectures, practical work, certain types of laboratory work	36 m ²
305 – Laboratory of Labor Protection and Environment	Carrying out practical work, all types of laboratory work, IWSST (Independent Work of a Student with a Teacher)	42 m ²

APPROVAL SHEET
on the Educational program
«6B11210 - Life safety and environmental protection»

Director of the Department of
Academic Affairs and Quality
of the Educational Process _____ A.S.Naukenova

Deputy Vice-Rector for
Research work and Innovation _____ B.K.Asilbekov

КЕЛІСУ ПАРАҒЫ

6B11210 - «Қоршаған ортаны қорғау және өмір тіршілігінің қауіпсіздігі» білім беру бағдарламасы бойынша

Академиялық мәселелер және
оқу үдерісінің сапасы жөніндегі
департамент директоры _____



А.С. Наукенова

Академиялық ғылымдар
департаменті директоры _____



У.Б. Назарбек

РЕЦЕНЗИЯ

на образовательную программу
6В11210 - «Безопасность жизнедеятельности и защита окружающей среды»,
разработанной в Южно-Казахстанском университете
имени М.Ауэзова, г. Шымкент

Образовательная программа предназначена для студентов по направлению подготовки 6В11210 – Безопасность жизнедеятельности и защита окружающей среды, в которой четко продемонстрированы основные цели и результаты обучения.

В перечне квалификаций и должностей четко описаны характеристики занимаемых позиций и выполняемых работ квалифицированных специалистов.

Основные компетенции выпускника ОП, такие как ключевые и профессиональные компетенции хорошо продемонстрированы в матрице соотнесения результатов обучения.

В образовательной программе по направлению подготовки 6В11210 – «Безопасность жизнедеятельности и защита окружающей среды» четко отражена ее уникальность, заключающаяся в комплексной подготовке студентов. Программа ориентирована на формирование у выпускников навыков и компетенций в равной степени в областях промышленной безопасности и охраны труда, промышленной экологии и предупреждения и ликвидации чрезвычайных ситуаций.

Подготовка специалистов по гуманитарным, социальным, экономическим, математическим и естественнонаучным и базово-профилирующим знаниям способствует получению высшего профессионального образования, позволяющее выпускнику владеть следующим: успешно оценивать степень воздействия вредных и опасных производственных факторов на здоровье и работоспособность работающих, проектировать типовые мероприятия по охране труда, проводить аттестацию рабочих мест по условиям труда, разрабатывать практические рекомендации по оптимизации условий труда на производстве, формировать практические навыки по использованию методов контроля над качеством окружающей природной среды, знать о методах оценки воздействия на окружающую природную среду, а также уметь пользоваться технологиями защиты окружающей среды и минимизации экологических рисков. Цель образовательной программы согласована с миссией университета и направлена на подготовку интеллектуальной элиты страны, обладающей передовыми знаниями, предпринимательскими навыками, свободно владеющих, тремя языками, демонстрирующих навыки концептуального, аналитического и логического мышления, творческий подход в профессиональной деятельности, способных работать в национальном и интернациональном коллективе, усваивающих стратегию обучения в течение всей жизни.

Сфера и объекты профессиональной деятельности хорошо дополняют друг друга отражая основную суть и нацеленность ОП.

В целом образовательная программа на 2026-2027 учебный год может быть применена в учебном процессе.

Начальник отдела межотраслевого контроля
и надзора промышленной безопасности
Департамента по ЧС г.Шымкент



Орынкулова Б.К.

ЭКСПЕРТНОЕ ЗАКЛЮЧЕНИЕ

на образовательную программу
по направлению подготовки 6В11210 – «Безопасность жизнедеятельности
и защита окружающей среды», разработанную в Южно-Казахстанском
университете имени М. Ауэзова, г. Шымкент

1. Актуальность образовательной программы

Разработанная образовательная программа по направлению подготовки 6В11210 – Безопасность жизнедеятельности и защита окружающей среды определяет миссию кафедры, которая заключается в сохранении регионального лидерства в сфере многопрофильного классического образования посредством реализации современных стандартов качества, многоуровневой модели непрерывного обучения, научных исследований, подготовки конкурентоспособных специалистов новой формации, обладающих фундаментальными знаниями, инновационными подходами, исследовательскими навыками для осуществления научной, педагогической, профессионально-практической деятельности.

2. Соответствие ОП сформулированным целям, согласующимся с миссией вуза, запросами работодателей и студентов

Четко и ясно осознавая цели программы, кафедра «Безопасность жизнедеятельности и защита окружающей среды» сформулировала свою миссию, которая заключается в подготовке высококвалифицированных специалистов «для осуществления всех видов профессиональной деятельности в избранной сфере, выполнения основных функций и задач профессиональной деятельности». Содержание заявленной кафедрой миссии соответствует общеуниверситетской миссии и обусловлено подготовкой бакалавров.

3. Соответствие Национальной рамке квалификации Республики Казахстан

Образовательная программа гармонизирована на 6-м уровне Национальной рамки квалификаций РК, с Дублинскими дескрипторами, 1 циклом Квалификационной Рамки Европейского Пространства Высшего Образования (A Framework for Qualification of the European Higher Education Area), а также с 6 уровнем Европейской Квалификационной Рамки для образования в течение всей жизни (The European Qualifications Framework for Lifelong Learning).

4. Отражение в ОП результатов обучения и компетенций, основанных на Дублинских дескрипторах, заложенных в профессиональных стандартах/отраслевых рамках

В ОП 6В11210 - «Безопасность жизнедеятельности и защита окружающей среды» четко определены 11 результатов обучения выпускника, которые формируются при успешном освоении программы. Эти результаты направлены на развитие как общих, так и профессиональных компетенций у выпускника, что соответствует современным требованиям к качеству образования. Компетенции ОП основаны на Дублинских дескрипторах, а также заложены в профессиональном стандарте «Безопасность и охрана труда», что обеспечивает соответствие образовательного процесса современным требованиям рынка труда.

5. Соответствие ГОСО

Образовательная программа включает в себя соответствующие требованиям Государственного общеобязательного стандарта:

- воспитание в духе патриотизма, дружбы народов Республики Казахстан, уважение к культурным традициям и обычаям;
- формирование общечеловеческих и социально-личностных ценностей выпускника;
- формирование экологической, физической, этической, правовой культуры, культуры мышления;
- языковая подготовка бакалавра;
- формирование фундаментальных знаний, необходимых для усвоения профессиональных дисциплин;
- формирование теоретических и практических знаний, умений и навыков, необходимых для их реализации в профессиональной деятельности.

Данная образовательная программа разработана в соответствии с ГОС высшего образования (бакалавриат), утвержденным приказом МНВО от 20июля 2022 г. №2, в редакции приказа МНВО от 04.03.2025г. №90.

6. Структура и содержание ОП, применение модульного принципа их построения

Структура ОП показывает организацию различных компонентов обучения и включает базовые и профилирующие дисциплины (вузовского и выборного компонента), модули (отдельные блоки дисциплин, которые объединены общей темой), практику. Структура и содержание образовательной программы взаимосвязаны.

Модульный принцип позволяет структурировать образовательный процесс на отдельные модули, каждый из которых охватывает определённую тему или область знаний. Это обеспечивает гибкость обучения и возможность адаптации программы под потребности студентов.

7. Наличие в ОП компонентов для подготовки к профессиональной деятельности, развивающих ключевые компетенции, интеллектуальные и академические навыки, отражающих изменяющиеся требования общества

В ОП 6В11210 - «Безопасность жизнедеятельности и защита окружающей среды» присутствуют компоненты для подготовки к профессиональной деятельности, развивающих ключевые компетенции, интеллектуальные и академические навыки, отражающих изменяющиеся требования общества.

8. Логическая последовательность дисциплин и отражение основных требований в учебных планах и программах обучения

В учебном плане ОП 6В11210 - «Безопасность жизнедеятельности и защита окружающей среды» соблюдается четкая последовательность дисциплин, что обеспечивает системный подход к подготовке студентов. Каждый модуль программы направлен на формирование необходимых личностных качеств, поведенческих навыков и профессиональных компетенций, что является важным аспектом для успешной карьеры в области безопасности жизнедеятельности.

9. Отражение в ОП системы учета учебной нагрузки студентов и преподавателей в кредитах, ее соответствие параметрам кредитной системы обучения

В рамках кредитной системы обучения в образовательной программе 6В11210 - «Безопасность жизнедеятельности и защита окружающей среды» отражена система учета учебной нагрузки студентов и преподавателей, что является важным элементом организации образовательного процесса. Это позволяет обеспечить баланс между теоретическими знаниями и практическими навыками, а также способствует более эффективному управлению временем как студентов, так и преподавателей.

10. Наличие в ОП производственной практики для закрепления теоретического материала, выраженного в учебной нагрузке в кредитах

Включение производственной практики в образовательную программу с соответствующим отражением учебной нагрузки в кредитах является важным шагом к обеспечению качественного образования. Это позволяет студентам не только закрепить теоретические знания на практике, но и подготовиться к будущей профессиональной деятельности. Правильная организация и учет производственной практики способствуют формированию компетентных специалистов, готовых к вызовам современного рынка труда.

11. Сведения о ППС, участвующих в реализации ОП

Реализация ОП 6В11210 - «Безопасность жизнедеятельности и защита окружающей среды» осуществляется высококвалифицированными научно-педагогическими кадрами, что является важным фактором для обеспечения качества образования. Кадровое обеспечение ОП осуществляется на высоком уровне благодаря 100% доле ППС с профильным образованием и привлечению специалистов из производства.

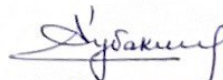
12. Квалификация, получаемая в результате освоения ОП

После успешного завершения настоящего образовательной программы выпускнику присваивается степень: бакалавр в области услуг по «6В11210 – Безопасность жизнедеятельности и защита окружающей среды».

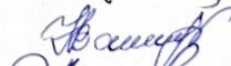
13. Рекомендация

Комиссия оценивает данную образовательную программу, как законченный нормативный документ согласно направлению подготовки 6В11210 – Безопасность жизнедеятельности и защита окружающей среды.

Председатель экспертной комиссии:

 Аубакирова Ф.Х.

Члены экспертной комиссии:

 Карташова А.В.
 Макулбекова Г.О.