

MINISTRY OF SCIENCES AND HIGHER EDUCATION OF THE REPUBLIC KAZAKHSTAN
M.AUEZOV SOUTH KAZAKHSTAN UNIVERSITY



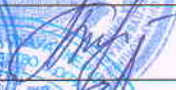
EDUCATION PROGRAMME

7M11210 - Life safety and environmental protection

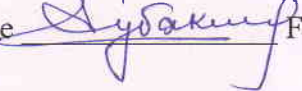
Registration Number	7M11200001
Code and classification of the field of education	7M11 Services
Code and classification of training areas	7M112 – Hygiene and labor protection at work
Group of educational programs	M150 - Sanitary measure
Type of EP	<i>acting</i>
ISCE level	7
NQF level	7
SQF of education level	7
Language of learning	English, Russian, Kazakh
The complexity of the EP, not less	120 credits
Distinctive features of EP	-
University Partner (JEP)	-
University Partner (TDEP)	-

Shymkent, 2026

Compilers:

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The EP was considered at a meeting of the Academic Quality Committee of the «Architecture, construction and transport» faculty of the Higher School, Minutes # 3 « 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
Minutes # 4 « 27 » 02 2026.

Chairman of the EMM  E. Imangaliyev

The EP was approved by the decision of the Academic Council of the University
Minutes # 14 « 26 » 03 2026.

The educational program has been updated taking into account the new model of inclusive education and agreed with the City department of employment and social protection.

 K. Kaldykarayev

CONTENT

1.	Concept of the program	4
2.	Passport of the educational program	6
3.	Competencies of a graduate of the EP	8
3.1	Matrix of correlation of learning outcomes on the EP as a whole with the competencies being formed	10
4.	Matrix of the influence of modules and disciplines on the formation of learning outcomes and information on labor intensity	11
5.	Summary table reflecting the volume of loans disbursed in the context of EP modules	27
6.	Learning strategies and methods, control and evaluation	28
7.	Training and resource support	29
	Agreement sheet	31
	Appendix 1. Review from the employer	
	Appendix 2. Expert opinion	

1 CONCEPT EP

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 kind of intolerance and discrimination: • Rules of academic integrity (Order No. 212-НҚ dated 10.10.2022); • Anti-Corruption Standard (Order No. 221-НҚ dated 07.12.2021). • Code of Ethics (order No. 212-НҚ dated 10.10.2022). • Anti-Corruption Policy of the NJSC “M. Auezov South Kazakhstan University.” (order No. 144 нқ dated 07.14.2022).
Regulatory and legal framework for the development of EP	1. Law of the Republic of Kazakhstan "On Education" No. 319-III dated July 27, 2007; 2. Standard rules of activity 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 3. State obligatory standards of higher and postgraduate education, approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated July 20.2022 No. 2; 4. Rules for the organization of the educational process on credit technology of

training, approved by the Order of the Ministry of Education and Science of the Republic of Kazakhstan dated April 20, 2011 No. 152;

5. Qualification directory of positions of managers, specialists and other employees, approved by the Order of the Minister of Labor and Social Protection of the Population of the Republic of Kazakhstan on December 30, 2020 No. 553.

6. Guidelines for the use of ECTS.

7. Guidelines for the development of educational programs of higher and postgraduate education, Appendix 1 to the order of the Director of the Central Research Institute No. 45 o/d dated June 30, 2021.

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 according to the Standard Rules of admission to training in educational organizations implementing educational programs of higher and postgraduate education Order of the Ministry of Education and Science of the Republic of Kazakhstan No. 600 dated 31.10.2018

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	Training of competent personnel for the system of higher, postgraduate education and the research sector with in-depth scientific and pedagogical training in the field of life safety and environmental protection.
Tasks of the EP	- formation of socially responsible behavior in society, understanding the importance of professional ethical standards and following these standards; - providing basic training that allows you to continue learning throughout your life, successfully adapt to changing conditions throughout your professional career; - to provide graduates with a level of knowledge and skills that allows them to design and construct various means, methods and methods of industrial protection of a person from harmful and dangerous factors, its subsystems and elements using computer modeling tools, advanced experience in the development of competitive products, with a feasibility study of design decisions taken; - to provide graduates with a level of knowledge and skills that allows them to be in demand in the field of their professional activity in the highest positions at domestic and foreign enterprises; - creation of conditions for intellectual, physical, spiritual, aesthetic development to ensure their employment opportunities; - 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 sustainable development goal
Harmonization of EP	• 7th level of the National Qualifications Framework of the Republic of Kazakhstan; • Dublin descriptors of the 7th level of qualification; • 2 cycle of a Framework for Qualification of the European Higher Education Area); • 7th Level of European Qualification Framework for Life long Learning).
Connection of the EP with the professional sphere	International standard ISO 45001:2018 "Management systems in the field of occupational safety and health. Requirements and recommendations for use".
Name of the degree awarded	After successful completion of this OP, the graduate is awarded the degree of Master of Science in the field of services under the educational program 7M11210 – "Life safety and environmental protection"
List of qualifications and positions	- Chief specialist of occupational safety at work - Chief Inspector of Labor Protection - fire safety inspector - head of the middle level of the emergency squad - expert of projects and the state of objects on BZH and ZOS - teacher in higher educational institutions - research associate
Field of professional activity	- life safety and environmental protection, - science - education

Objects of professional activity	Military-industrial complex, production facilities, government agencies in the field of life safety, research institutes, secondary specialized and higher educational institutions.
Subjects of professional activity	The subjects of the master's professional activity are engineering structures, equipment that ensure the safety of life, protection in emergency situations (emergencies), the educational process.
Types of professional activity	- service and operational; - scientific research; - organizational and managerial; - pedagogical - expert, supervisory and inspection-audit.
Learning outcomes	LO 1 Demonstrate knowledge of a foreign language in interpersonal communication, professional activity, writing scientific articles. LO 2 Analyze the main ideological and methodological problems of an interdisciplinary nature that arise in science at the present stage of its development, evaluate various facts and phenomena based on the provisions and categories of the philosophy of science. LO 3 Evaluate the development and effective use of personnel in the organization, possess socio-psychological technologies for managing mass behavior. LO 4 Take part in the implementation of research work and the development of educational and methodological materials in the taught disciplines, taking into account the integration of education, science and innovation. LO 5 Determine the likelihood of hazardous situations and emergencies using hazard analysis and risk monitoring methods, including the use of digital diagnostic and monitoring systems for technical equipment, and AI technologies for data analysis in occupational health and safety management systems. LO 6 To make operational technical decisions in non-standard situations, demonstrating a managerial approach and logical thinking. LO 7 Independently perform engineering, scientific and methodological organizational work in various working conditions, conduct an examination of production processes from the position of ensuring safety; LO 8 To ensure and competently resolve issues of radiation, chemical and biological protection, compliance with basic technical and organizational measures to eliminate the consequences of natural and man-made emergencies in accordance with regulatory documents. LO 9 Conduct analysis and audit on the implementation of occupational safety requirements in the workplace to prevent accidents and occupational diseases at industrial and production facilities.

3. Competencies of a graduate of the EP

General competencies (SOFT SKILLS). Behavioral skills and personal qualities	
GC 1. Competence in managing your literacy	GC 1.1. Strive for professional and personal growth throughout life. GC 1.2. Constantly update their knowledge within the chosen trajectory and in the conditions of interdisciplinarity, carry out further training with a high degree of independence and self-regulation. GC 1.3. Be capable of reflection, objective assessment of their achievements, awareness of the need to form new competencies and continuing education in doctoral studies.
GC 2. Language competence	GC 2.1. The ability to possess a sufficient level of communication in the professional field in the state, Russian and foreign languages for negotiations and business correspondence. GC 2.2. The ability to possess mediation skills and intercultural understanding.
GC 3. Mathematical competence and competence in the field of science	GC 3.1. The ability to interpret methods of mathematical analysis and modeling for solving applied problems in the studied area. GC 3.2. The ability to plan scientific experiments, integrate and implement the results of scientific research in the professional field. GC 3.3. The ability to analyze and comprehend modern methods of pedagogical and psychological science and apply them in pedagogical activity.
GC 4. Digital competence, technological literacy	GC 4.1. Ability to confidently use modern information and digital technologies with elements of artificial intelligence for work, leisure and communications. GC 4.2. Proficiency in the use, recovery, evaluation, storage, production, presentation and exchange of information in a wide range of digital devices. GC 4.3. The ability to confidently use global information resources and apply technological literacy in research and computational and analytical activities.
GC 5. Personal, social and educational competencies	GC 5.1. Knowledge of the norms of business ethics, social and ethical values and focus on them in professional activities. GC 5.2. Formation of a personality capable of mobility in the modern world, critical thinking and physical self-improvement. GC 5.3. The ability to work in a team, correctly, clearly and argumentatively defend their position during discussions and make professional decisions. GC 5.4. The ability to adequately navigate in various social spheres of activity and in conditions of uncertainty. GC 5.5. The ability to find compromises, correlate your opinion with the opinion of the team.
GC 6. Entrepreneurial competence	GC 6.1. The manifestation of leadership qualities and the ability to have a positive impact on others, to lead a team. GC 6.2. The ability to create conditions for the development of creative and entrepreneurial skills of the team. GC 6.3. The ability to work in the mode of uncertainty and rapid change of task conditions, make decisions, respond to changes in working conditions, allocate resources and manage your time. GC 6.4. Ability to work with consumer requests.
GC 7. Cultural awareness	GC 7.1. The ability to show ideological, civic and moral positions.

and self-expression	GC 7.2. The ability to be tolerant of the traditions and culture of the peoples of the world, to possess high spiritual qualities.
Professional competencies (HARDSKILLS).	
Theoretical knowledge, practical skills and abilities specific to this field	PC 1 the ability to independently learn new research methods, to change the scientific and scientific-production profile of one's professional activity, using modern educational and information technologies, including elements of AI;
	PC 2 willingness to apply the regulatory framework of the Republic of Kazakhstan in the field of education, industrial safety and labor protection; ability to use logical and critical thinking to solve problems; safety;
	PC 3 the ability to lead and the ability to work in a team, demonstrate the skills of public speaking, argumentation, discussion; practical analysis of various kinds of reasoning;
	PC 4 the ability to analyze and comprehend the realities of modern theory and practice based on the methodology of natural science cognition and apply these teaching methods in practice; the ability to show analytical thinking skills in solving tasks and their correct documentation; the ability to compile and issue scientific, technical and service documentation, interpret the choice of necessary research methods in the field of industrial safety and labor protection.
	PC 5 take part in the implementation of research work and the development of educational and methodological materials in the taught disciplines, taking into account the integration of education, science and innovation.

3.1 Matrix of correlation of learning outcomes on the EP as a whole with the competencies being formed

	LO 1	LO 2	LO 3	LO 4	LO 5	LO 6	LO 7	LO 8	LO 9
GC 1				+		+	+		+
GC 2		+	+		+			+	
GC 3	+	+		+	+		+		
GC 4		+			+	+	+		
GC 5				+	+	+	+	+	
GC 6	+	+			+	+			
GC 7	+	+	+	+	+				
PC 1					+	+	+		
PC 2		+	+	+		+			+
PC 3						+	+	+	+
PC 4		+	+			+			

4. Matrix of the influence of modules and disciplines on the formation of learning outcomes and information on labor intensity

№	Module name	Cycle	Components	Disciplines name brief	Description of the discipline	Number of credits	Formation of learning outcomes(codes)								
							PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
1	Module of scientific and pedagogical training	BD	UC	History and philosophy of science	Purpose: to study the problems of the phenomenon of science as a subject of special philosophical analysis, patterns and trends in the development of special activities for the production of scientific knowledge taken in a socio-cultural context. Content: identification of the specifics and interrelation of the main problems of the history and philosophy of science. The study of the laws of the development of science and the structure of scientific knowledge, methods of scientific research. Knowledge of the basic concepts and directions of the non-classical and post-non-classical stages of the development of science. Analysis of the realities of modern theory and practice based on the understanding of the methodology of natural science, socio-humanitarian and technical knowledge. Critical thinking as a prerequisite for the development and functioning of modern society. Technologies for the development of critical thinking: consideration and study of the logic of arguments. Formation of critical reflexive thinking and metacognitive abilities.	4		v							
2		BD	UC	Foreign language (Professional)	Purpose: systematic deepening of communicative competence within the framework of international standards of foreign language education on the basis	4	v								

					of further development of skills and abilities of active language proficiency in professional activity. Content: levels B2, C1 are presented in the form of a pragmatic professional orientation for professional and academic purposes at an advanced level: scientific information base, interpretation of scientific information, argumentation, beliefs, scientific polemics, academic writing. Use of innovative methods and technologies, attraction of modern means, Internet resources.											
3		BD	UC	Psychology of Management	Purpose: to acquire knowledge in the field of psychological management and to develop the skills of human resource management of the organization. Content: development of psychological management theories. Psychological characteristics of the staff. Psychology of employee motivation. Human resource management technologies of the organization. Psychological support of the personnel policy of the organization. Psychology of conflict in the organization. Technologies for preventing professional deformation of the personality. Practical implementation in the form of creation of diagnostic tools, development of digital methods of training managers, management consulting.	3			v							
4	Methodical Fundamentals of Teaching	BD	UC	Higher School Pedagogy and Psychology	Purpose: to form the foundations of the professional and pedagogical culture of a university teacher, general pedagogical competencies, to familiarize master's students with the theoretical and methodological foundations of higher education pedagogy, technologies of planning, organizing and managing the educational process at a university.	5			v							

					Content: main ideas and approaches in the theory and practice of pedagogy. Consideration and presentation of the modern understanding of the educational process, innovative theories and technologies for training personnel, analysis of socio-pedagogical, normative-substantive, functionally psychological aspects of pedagogical activity. The relevance and objectives of inclusive education. Psychological and pedagogical aspects of teaching students with special educational needs. Creating a psychologically supportive educational environment for inclusive education at a university.											
5		PD	UC	AI in fire and industrial safety	Purpose: developing knowledge and skills in the application of artificial intelligence technologies for forecasting, monitoring, and managing risks in the field of fire and industrial safety, as well as for improving the effectiveness of safety systems at industrial facilities. Content: aundamentals of artificial intelligence and machine learning. Methods for collecting, processing, and analyzing data in fire and industrial safety systems. Application of artificial intelligence technologies for risk assessment and prediction, monitoring hazardous industrial facilities, equipment diagnostics, and emergency prevention. Use of computer vision and intelligent decision support systems. Prospects for implementing artificial intelligence in fire and industrial safety.	5				v						
6				Pedagogical Practice	Purpose: mastering the basics of pedagogical skills, skills and abilities of independent conduct of educational and teaching activities in higher	4		v		v						

					diagnostics and monitoring of technical equipment to prevent accidents and emergencies; modern trends in the use of artificial intelligence technologies for data analysis, risk forecasting and decision-making support in the field of industrial, environmental and technosphere safety.										
		PD	EC	Technosphere safety management	Purpose: formation of decision-making skills for risk management, organization of technosphere safety management at the enterprise. Contents: fundamentals of Technosphere safety management. The structure of state security management in the technosphere. Responsibility for violation of legal and regulatory safety requirements. Management of sanitary and epidemiological welfare of the population. Environmental safety management. Legislative basis of safety management in the technosphere. Fundamentals of technogenic risk management. Improving the safety of production equipment, technological and labor processes						v	v			
8		PD	EC	Evaluation of reliability, survivability and safety of technical systems	Purpose: formation of skills about the analysis and synthesis of technical systems with a given level of reliability and their diagnosis, analysis of perceived risks. Contents: fundamentals of reliability theory. Methods of describing the reliability of technical systems. Mathematical apparatus for the analysis of reliability and technogenic risk. Reliability calculation. Methods of reliability forecasting. Reliability management system. A systematic approach to the analysis of reliability and	4					v	v			

					technogenic risk. Basic concepts and indicators of reliability of machines and technical systems. Technogenic risk and its analysis. Organizational mechanisms and management structure of the problem of reliability of technical systems and technogenic risk.										
		PD	EC	The human factor in ensuring industrial safety	Purpose: mastering the knowledge of the basics of security, developing on this basis responsible and rational behavior necessary for the effective practical activities of modern highly qualified specialists. Content: characteristics of the main forms of human activity. Scientific approaches to accounting for the influence of the human factor on the failures of technical systems. Search for information by the operator. Engineering and psychological foundations of the operation of "man—machine" systems. Reliability of a person as a link of a technical system. Personnel safety. The human factor and security.						v	v			
		PD	EC	Modern aspects of environmental protection engineering systems	Purpose: formation of knowledge of the theoretical foundations of engineering ecology, studying the impact of industry and enterprises, vehicles, development of engineering and technical solutions that ensure environmental safety in the technosphere. Contents: introduction to Environmental Engineering. Engineering and environmental systems. Industrial ecosystems. Occupational health and safety management system. Technosphere of the earth: functioning, regulation of pollution. Pollution and protection of the atmosphere. Physico-chemical properties of dust, its dispersed composition and	4						v	v		

					classification. Physical impact on the environment.												
		PD	EC	Analysis and audit of the safety of a hazardous production facility	Purpose: mastering the basics of auditing in the field of industrial safety, the regulatory framework of auditing by undergraduates. Content: regulatory legal acts in the field of industrial safety supervision. Object audit. Audit of hazardous production facilities. Development of a fire safety audit plan for electrical installations and preparation of a protocol. Calculation of fees for negative impact on the environment. Industrial safety expertise. Environmental safety audit. Technological audit. The procedure for the accreditation and certification of environmental auditors, environmental auditing organizations and training centers.												v
9				Research Practice	Purpose: to familiarize with the latest theoretical, methodological and technological achievements of domestic and foreign science, modern methods of scientific research, processing and interpretation of experimental data. Content: to familiarize with the latest theoretical, methodological and technological achievements of domestic and foreign science, modern methods of scientific research, processing and interpretation of experimental data. To evaluate the main purpose of the research practice of undergraduates - the acquisition of skills for conducting independent research, the use of data obtained during the study. To acquaint with the latest theoretical, methodological and technological achievements of	6									v		

					domestic and foreign science, modern methods of scientific research, processing and interpretation of experimental data.										
10	Actual problems of labor protection	PD	EC	Actual problems in the field of life safety and labor protection	Purpose: formation of safe thinking and behavior, general literacy in the field of security in order to ensure the protection of the individual, society and the state as a whole on the basis of justification and adoption of decisions within the scope of official duties, as well as actions related to the implementation of safety standards. Contents: theoretical foundations of life safety. Man as an element of the "man – habitat" system. Risk management. The relevance and complexity of the problem of labor protection in modern conditions. Assessment of professional risks (tasks, stages, approaches, possible solutions).	6					v	v			
		PD	EC	Technical means of ensuring occupational safety and environmental protection	Purpose: formation of engineering and environmental thinking, which allows to understand modern problems of environmental protection and rational use of natural resources and use them in work. Content: rational use of nature. Environmental pollution and monitoring. Methods of control Devices for monitoring the state of the environment the state of the environment. Gas emissions in industry: pollution assessment, cleaning and neutralization, equipment used. Methods and facilities for disposal, burial and incineration of solid: household and industrial waste. Harmful substances in the air of the working area. Technical means of protection against vibration and noise.						v	v			

11		BD	EC	Monitoring of natural and man-made emergencies in the Republic of Kazakhstan	Purpose: to form a set of knowledge complex based on the use of artificial intelligence on issues of organizing safety monitoring aimed at reducing natural and man-made risk factors for the population, natural objects, industrial and residential areas. Contents: fundamentals of organizing monitoring and forecasting risk factors and vulnerability of natural and man-made objects using elements of artificial intelligence. Regulatory framework for ensuring safety in the technosphere and organizing monitoring. Aerospace technologies for monitoring safety and assessing the state of environmental components and natural resources. Monitoring the impact of emergency chemical hazardous substances. Monitoring hydraulic structures (dams).	5						v	v			
		BD	EC	Systems management in life safety and environmental protection	Purpose: to familiarize undergraduates with industrial safety and its management, as well as environmental protection and the basics of reliability of technical systems. Content: accounting, analysis and assessment of the state of security in the human-habitat system. Forecasting and planning of activities to achieve the goals of the management of the BDZ. Life safety management. Planning of activities to achieve goals and solve management tasks. Organization, coordination of work and operational management. Activation and promotion of a high level of security.							v	v			
12	Scientific and innovative activity	BD	EC	Planning and management of scientific and innovative	Purpose: to study the basic concepts and definitions from the field of planning, organization and management of scientific research and innovation activities in the field of life safety and labor	5								v		

				activities	protection. Content: methods and principles of organization, planning and management of scientific research. The purpose of the experiment, basic concepts and definitions. The concept of the methodology of pedagogical science and methodological culture of the teacher. Information technologies in scientific research and development. Decision support information systems. Technology for the implementation of a comprehensive study.											
		BD	EC	Modern science research and their meteorological support	Purpose: formation of modern understanding and scientific knowledge among undergraduates about the methods of optimal use of meteorological information in the process of environmental protection; Contents: international and regional experience of the system of monitoring and data management of atmospheric air quality, as well as the ecological state of the air environment; climate warming and atmospheric air pollution. Emissions regulation and pollution prevention. Methodologies for the study of dangerous weather phenomena. Classification signs and criteria of danger (risk), methods of their assessment and damage caused to people and the environment. Conceptual foundations of risk assessment.									v		
13		BD	EC	Features of rescue and emergency recovery operations in	Purpose: formation of master students' skills in the organization and technology of emergency rescue operations, emergency response operations, to develop operational and tactical documentation, as well as work with modern emergency rescue equipment.	5									v	

				emergency situations	Content: the main aspects of emergency response. Legislation in the field of emergency response. The state system of prevention and liquidation of emergency situations. Tactics of rescue operations and elimination of natural and man-made emergencies. Emergency recovery work in emergency situations at life support facilities.										
		BD	EC	Investigation and accounting of accidents, occupational diseases at work	Purpose: to improve the quality of training of a specialist in the field of ensuring safe working conditions by obtaining practical skills in conducting an investigation of accidents at work, developing measures for the prevention of occupational injuries, working with the regulatory framework. Content: regulatory legal framework for the investigation of industrial accidents and occupational diseases. Classification of accidents and occupational diseases. The procedure for the investigation of industrial accidents and occupational diseases. Determination of the severity of damage to the health of the victim during the investigation of the accident.										v
14	Organizational and technical measures in industrial safety	PD	EC	Prediction and prevention of parameters of the state of the production environment, hazardous situations and zones	Purpose: generalization and deepening of students' knowledge about the complex of modern methods for identifying and predicting the parameters of environmental hazards and mastering the practical skills of students in choosing the most optimal and effective ways and means of protection from the negative effects of hazards. Content: factual methods of forecasting the state of the production environment, hazardous situations and hazardous areas. Extrapolation and interpolation	5					v				v

					as statistical forecasting methods. Expert methods of forecasting the state of the production environment, hazardous situations and hazardous areas. Analytical expert assessments as a method of individual expert assessments in forecasting.													
		PD	EC	Industrial safety	Purpose: to form a fundamental understanding of the legal, economic and social foundations of ensuring the safe operation of hazardous production facilities among undergraduates; Content: general questions of production safety. Industrial injuries and accidents. Safety of production processes. Safety of production equipment. Safety of operation of systems operating under pressure. Safety of operation of lifting machines. Safety of operation of boiler installations. Safety of operation of the gas facilities of the enterprise. Electrical safety. Protection against static and atmospheric electricity.													v
15		PD	EC	Organizational and technical measures to ensure electrical safety	Purpose: formation of knowledge in the field of organizational measures, technical means and technical measures to ensure the protection of people from the effects of electric current and electric arc. Contents: general information about electrical safety. Labor organization and electrical safety. Electrical injuries and first aid to an electrocuted person. Hazard analysis of electrical installations. Static electricity and protection against it. Safety of operation of existing electrical installations. Safety measures when performing certain types of work in electrical installations. Calculation of technical methods for ensuring electrical safety.	6												v

		PD	EC	Integrated security system for industrial enterprises	Purpose: formation of competencies in organizational and managerial, design, expert and supervisory activities of the master, acquisition of skills in the field of security organization at industrial enterprises. Content: general issues of the organization of the industrial safety system. State regulation in the field of labor protection. State regulatory requirements for labor protection. Duties and responsibilities of employees and officials to comply with the requirements of labor protection and labor regulations. Organization of the occupational health and safety management system. Organization of instruction and training on labor protection and verification of knowledge of labor protection requirements of employees of organizations. Production control over compliance with industrial safety requirements.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		</
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				the environment	vital functions of workers Content: study of safety expertise issues, legal foundations and expertise of labor protection at enterprises. Working conditions and employee health, occupational disease and industrial injury, quantitative assessment of working conditions, methods and expertise of assessing working conditions, instrumental assessment of working conditions, intensity of the work process, hygienic criteria, socio-economic standards, types of occupational safety briefings and the timing of their completion.											
18	Module of Scientific - research work and Final Certification			Research work of a master student, including passing an internship and completing a master's thesis	Purpose: to develop the skills of conducting independent scientific work and mastering the methodology of scientific research and experimentation in solving the problems and issues being developed. Contents: analytical review on the topic of the master's thesis. Conducting theoretical and experimental scientific research. Processing of experimental research results. Preparation of reports, publications and reports, participation in scientific and practical conferences on the results of research. Writing a master's thesis.	24								v		
				Execution and Defense of Master`s Thesis	Purpose: demonstrating the level of scientific / research qualifications of a graduate student, the ability to independently conduct a scientific search, to test the ability to solve specific scientific and practical problems, knowledge of the most general methods and techniques for solving them. Content: preparation and defense of a master's thesis	8								v		

					in accordance with the regulatory legal acts of the authorized body in the field of education and science. Publication of the main results of the dissertation in scientific and analytical publications. A visual demonstration of a master's student's ability to creatively formulate and solve scientific and practical problems.												
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5. Summary table reflecting the volume of loans disbursed 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 loans KZ	Quantity	
			UC	EC	Theoretical training	Teaching practice	Research practice	SRWMS	Registration and defense of a master's thesis			exam	Diff. offset
1	1	5	5	2	29			1		900	30	6	2
	2	5		4	22	4		4		900	30	4	2
2	3	5		2	11		6	3		600	20	2	2
	4	1		3	16			4		600	20	3	1
	5							12	8	600	20		
Total		8	5	11	78	4	6	24	8	3600	120	15	7

6. Learning strategies and methods, control and evaluation

Training strategy	Master-centered learning: the master is a learning/learning center and an active participant in the learning process and decision-making. Practice-oriented training: orientation to the development of practical skills.
Training methods	Conducting lectures, seminars, and various practices: • application of innovative technologies: • problem-based learning; • case study; • work in a team and creative team; • discussions and dialogues, intellectual games, Olympiads, quizzes; • reflection, projects, benchmarking methods; • Bloom taxonomy; • presentations; • rational and creative use of information sources: • multimedia training programs; • electronic textbooks; • digital resources. Organization of independent work of masters, individual consultations.
Monitoring and evaluating access to learning outcomes	Current control on each subject of the discipline, control of knowledge in classroom and extracurricular classes (<i>according to the syllabus</i>). Evaluation forms: • conducting surveys in the classroom; • testing on subject topics; • control work; • protection of independent creative works; • discussions; • trainings; • colloquiums; • essays, etc. Border control within the same academic discipline at least twice during the same academic period. Intermediate certification is carried out in accordance with the working curriculum and academic calendar. Objects of the event: • examination in the form of testing; • oral exam; • Written Exam; • combined exam; • project protection; • protection of practice reports. Final state certification.

7. Training and resource support

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 format scanners, 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», «SKGU 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: «SpringerLink», «Polpred», «Web of Science», «EBSCO», «Epigraph», to electronic versions of scientific journals in the public domain, «Zan», «RMEB», «Adebiet», Digital library «Aknurpress», «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 complex	The material and technical base of the educational program 7M11210 «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, (2 pcs), 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 liquid crystal monitors, connected to a local network and connected to the Internet, the services of which all employees and undergraduates 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 undergraduates, as well as facilities, tools and equipment, a modern instrument base, 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. So, in particular, auditorium 108 – computer class (36m²), the following types of work are carried out: conducting lectures, practical work, certain types of laboratory work, conducting classes using computer programs and applications. The auditorium is equipped with an interactive whiteboard. Auditorium 111 – electrical safety laboratory (36m²) the following types of work are carried out: conducting practical work, certain types of laboratory work. Auditorium 113 – Labor and Environmental Protection Laboratory (42m²) the following types of work are carried out: practical work, all types of laboratory work, SRMP. 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 using 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. The laboratory base is represented by the following organizations: Research and Production Center «PromBez-Archstroy-Expert» LLP, «Petro Kazakhstan Oil Products» LLP, «InEU» LLP, «Kainar» LLP, «ANB KAZSTROYSERVICE» LLP, which allows doctoral students to actively engage in experimental research the work of doctoral students (EIRD), the research work of doctoral students (NIRD) under the guidance of teachers. The university has a regional laboratory for collective use «IRLIP» and a test center «SAPA», where undergraduates conduct research and experiments on their dissertations.
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