ALT University named after Mukhametzhan Tynyshpayev Joint Stock Company

APPROVED
by the decision of the US "ALT University named after M. Tynyshpayev" from «03» 03 2025 y. (Protocol № 8)
President-Rector
Zharmagambetova M.S.

EDUCATIONAL PROGRAM

Name: 6B11238-TECHNOGENIC AND SANITARY-ECOLOGICAL SAFETY

Degree level: Bachelor's degree

Training area code and classification: 6B112 Occupational Health and Safety

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

Date of registration in the Registry: 07.04.2025
Registration number: 6B11200052

Almaty, 2025 y.

CONTENT

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

1 DEVELOPED:

Associate Professor, PhD _____ Abdreshov S.A.

Associate Professor, Ph.D. _____ Dyusembin E.A.

Assistant Professor, Ph.D. _____ Bimagambetova L.N.

Senior Lecturer _____ Torgaev A.A.

Senior Lecturer _____ Kurmashev B.B.

Chairman of the Board of Directors Almaty Fan Factory LLP _____ Bakkulov M.S.

3rd year student, gr.OT-23-1k _____ Karibay A. B.

2 EXPERTS:

Chief Specialist of the Department Personnel and educational work Emergency situations in Almaty, Ministry of Emergency Situations of the Republic of Kazakhstan _____ Akilbekova Z.E.

Al-Farabi Kazakh National University
Head of the UNESCO Department of Sustainable Development, PhD, Associate Professor _____ Bazarbayeva T.A.

3 REVIEWER:

Head of the Department of Agricultural Machinery and Mechanical Engineering, Ph.D., Associate Professor, NAO KazNAIU _____ Zhumagulov J.B.

4 REVIEWED AND RECOMMENDED:

Meeting of the AK Department of ATS and BZhD Protocol №1, «16»10 2025 y _____ Toylybaev A.E.
(signature)

EMB ITiS meeting Protocol № 7, « 28 » 02 2025 y _____ Abdreshov S.A.
(signature)

UMS meeting Protocol No. 4, «20»03 2025 _____ *Kojabergenova A.K.*
(signature)

5 APPROVED by the decision of the Academic Council of «27» 03 2025 №8

2. REGULATORY REFERENCES

1. The educational program has been developed on the basis of the following regulatory legal acts and professional standards:

2. The Law of the Republic of Kazakhstan "On Education" dated July 27, 2007 No. 319-III (with amendments and additions as of March 27, 2023).

3. The National Qualifications Framework, approved by the protocol of March 16, 2016 of the Republican Tripartite Commission on Social Partnership and Regulation of Social and Labor Relations.

4. The sectoral qualifications Framework for Education, approved by the Minutes of the meeting of the Sectoral Commission of the Ministry of Education and Science of the Republic of Kazakhstan on social Partnership and Regulation of social and labor relations in the field of education and science dated November 27, 2019 No. 3.

5. The State mandatory standard of Higher and Postgraduate Education (Order No. 66 of the Minister of Science and Higher Education of the Republic of Kazakhstan dated February 20, 2023).

6. 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 dated August 12, 2022 No. 309.

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

8. Classifier of training areas with higher and postgraduate education, approved by Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 13, 2018 No. 569 (with amendments and additions as of June 05, 2020).

9. The algorithm for including and excluding educational programs in the Register of Educational Programs of Higher and Postgraduate Education, approved by Order of the Minister of Education and Science of the Republic of Kazakhstan dated December 4, 2018 No. 665 (with additions and amendments as of December 23, 2020 No. 536).

9. RI-ALT-33 "Regulation on the procedure for developing an educational program for higher and postgraduate education".

10. Professional standard: "Labor Protection", National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken", approved by Order No.255 dated December 18, 2019.

3. PASSPORT OF THE EDUCATIONAL PROGRAM

№	Field name	Note
1	Registration number	6B11200052
2	Code and classification of the field of education	6B11 – Services
3	The code and classification of training areas	6B112 – Occupational hygiene and safety
4	The code and the group of educational programs	B-094 -Санитарно-профилактические мероприятия
5	Name of the educational program	6B11238- Technogenic and sanitary-ecological safety
6	Type of OP	New
7	Purpose of the OP	Training of highly qualified personnel with in-depth knowledge and practical skills in the field of man-made and sanitary-environmental safety at enterprises, organizations and settlements. The program is aimed at developing the competencies necessary to prevent, predict and eliminate the consequences of man-made and natural emergencies, as well as to ensure favorable sanitary and hygienic conditions and the rational use of natural resources.
8	ISCED level	6
9	NRC Level	6
10	ORC Level	6
11	Distinctive features of the OP	No
	Partner University (SOP)	-
	Partner University (DDOP)	-
12	The form of education	Full-time, full-time with translation to
13	Language of instruction	Kazakh, Russian, English
14	Volume of credits	241
15	Academic degree awarded	Bachelor's degree in services in the educational program 6B11238 – Technogenic and sanitary-ecological safety
16	Availability of an attachment to the training license	KZ87LAA00036465 от 28.07.2024 г
17	Availability of OP accreditation	Not available
	Name of the accreditation body	
	Validity period of accreditation	

4. THE GRADUATE'S COMPETENCE MODEL

Objectives of the educational program:

1. Formation of a personality capable of self-improvement and professional growth with diverse humanitarian and natural science knowledge and interests.

2. Formation of the ability to critically rethink accumulated experience, improve the profile of their professional activities, awareness of the social significance of their future profession, and possess high motivation to perform professional activities.

3. Formation of the ability to find a compromise between different requirements (cost, quality, safety and deadlines) in long-term and short-term planning and make optimal decisions in the field of occupational safety and environmental protection; possess a culture of thinking,

4. Formation of the ability to generalize, analyze, perceive information, set goals and choose ways to achieve them.

5. Assistance in the formation of graduate readiness: to develop documentation on the implementation of measures that ensure high-performance and safe working conditions; to carry out work to ensure the environmental safety of enterprises; to develop environmental documentation and methodological materials, proposals and measures to protect the environment.

6. Formation of graduates' readiness to conduct a feasibility study, substantiate accepted and implemented decisions in the field of occupational safety and environmental protection; application of the results in practice, striving for self-development, improving their skills and skills

7. Formation of graduates' readiness for the rational use of natural resources, energy and materials in the production and economic activities of enterprises.

8. Formation of graduates' readiness for research activities, the use of modern software applications in the field of ecology and labor protection, as well as for processing the results of experimental and theoretical research.

Learning outcomes:

LO1 is to argue for rational, environmentally friendly and safe processes using knowledge of physics, chemistry, mathematical apparatus and information and communication technologies in professional activities using scientific research methods and artificial intelligence.

LO2 - Express their thoughts competently and respectfully, based on socio-ethical values, including inclusion and respect for diversity, understanding of spiritual processes in society, interpersonal and legal interests of the parties, as well as principles of protection of rights, for effective teamwork and discussion of issues in an international environment in Kazakh, Russian and English.

LO3 - Apply professional and personal qualities, possess analytical methods and leadership skills to create sanitary, hygienic and safe working conditions by competently applying legislation and maintaining technical and technological equipment ensuring industrial safety.

LO4 - Apply methods of prevention and protection against hazards in production and specify methods of ensuring fire, radiation, and electrical safety at the enterprise, using advanced engineering knowledge.

LO5 - To identify and identify the causes of environmental pollution using knowledge in the field of chemistry, geoecology and interaction of geosystems, fuel chemistry, methods of operation of technological equipment and transport power plants.

LO6 - Apply methods of technical and economic analysis and critical thinking for competent engineering and management decision-making, summarizing information when setting goals and choosing rational ways to improve working conditions and environmental safety.

LO7 is to demonstrate the application of acquired knowledge to find a compromise between various requirements in the field of occupational safety and environmental safety, taking

into account the requirements of cost and quality of measures to make optimal and organizational technical and economic decisions in the field of occupational safety and environmental protection and the rational use of natural resources.

LO8 is to demonstrate knowledge of the basics of radiation, chemical and biological safety, and the ability to act competently in man-made accidents, fires and other emergencies, including natural ones, to properly use personal protective equipment, provide first aid and carry out necessary measures to protect the population.

LO9 - To use modern instruments and equipment when measuring and monitoring the environment.

LO10 - To develop and compile environmental reports and documentation of projects for environmental protection, environmental protection measures, EIA, waste passports and reclamation of disturbed lands.

Field of professional activity: the graduate's professional activity covers the field of ensuring man-made, sanitary and environmental safety at industrial, civil and natural facilities. This includes the prevention, assessment, control and management of risks related to hazardous production factors, environmental pollution and human health impacts..

Objects of professional activity:

Production and technological processes that are potentially dangerous to humans and the environment.

Sources of physical, chemical, biological and other harmful factors.

Monitoring and risk management systems.

Environmental objects (air, water, soil).

The population and labor collectives exposed to harmful effects.

Means of individual and collective protection.

Regulatory and legal documents in the field of security.

Types of professional activity:

- analytical — risk analysis, monitoring of the environment and sanitary conditions;
- design and technology — development of security measures and systems;
- production and technical — participation in the operation and maintenance of protection systems;
- organizational and managerial - planning and implementation of security measures;
- control and supervision - monitoring compliance with sanitary, environmental and man—made standards;
- expert — participation in environmental and sanitary expertise
- scientific research — conducting research on improving security methods

Functions of professional activity:

1) Identification and assessment of potential hazards and risks

2) Development and implementation of measures to reduce man-made and sanitary-environmental risks

3) Conducting laboratory and instrumental studies of the environment and the production environment

4) Organization and maintenance of industrial and environmental control

5) Development of regulatory and technical documentation on safety

6) Conducting safety briefings and training for personnel

7) Participation in the investigation of incidents related to violations of environmental or sanitary safety

List of specialist positions: Technosphere security Engineer, Security Engineer environmental protection and safety engineer, environmental safety specialist, environmental

engineer, sanitation engineer, industrial safety specialist, sanitary and epidemiological control specialist, environmental control and monitoring specialist, environmental impact assessment (EIA) expert, technical labor inspector, laboratory assistant environmental or sanitary laboratory, specialist in production and consumption waste management, specialist in environmental control department, radiation and chemical safety engineer.

Professional certificates obtained upon graduation: none.

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

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

- production;
- pre-graduation.

Educational practice.

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

Production practice 1.

During the internship period, the student receives certain practical knowledge, skills and abilities according to the chosen Educational program.

The objectives of the internship are: to deepen and consolidate the theoretical knowledge gained in the learning process; to acquire skills in the practical use of professional knowledge gained during theoretical training; to learn skills in solving practical and managerial tasks; to become familiar with the specifics of a bachelor's professional activity in a particular industry; to form a professional position of a specialist, a style of behavior, mastering professional ethics.

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

Pre-graduate practice 2.

The content of the pre-graduate internship is determined by the topic of the thesis (project). During the pre-graduate internship period, the student collects factual material about the production (professional) activities of the enterprise (organization) and uses it in the development of the graduation project (work). The practice involves working out a given problem (thesis topic) based on the materials of a specific enterprise (organization) with the student's independent formulation of conclusions, suggestions, recommendations, etc. In the course of practice, the student must demonstrate his knowledge and skills of a specialist, organizational skills, decision-making skills, performance discipline, responsibility, initiative.

Final certification It is conducted in the form of writing and defending a thesis (project) or preparing and passing a comprehensive exam. The purpose of the final assessment is to evaluate the learning outcomes and acquired competencies achieved upon completion of the study of the educational program of higher education.

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