

MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF KAZAKHSTAN  
RSE with EMR "M.AUEZOV SOUTH KAZAKHSTAN STATE UNIVERSITY" MES RK



## EDUCATION PROGRAMME

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THE MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF  
KAZAKHSTAN

M.Auezov SOUTH KAZAKHSTAN STATE UNIVERSITY

« APPROVED BY »

The Rector

d.h.s., academician Kozhamzharova D.P.

« 23 » 02 2020 y.

**EDUCATION PROGRAMME**

**6B07510 - Standardization and Certification (by industry)**

Registration number	- 6B07500027
Code and classification of the field of education	6B07 - Engineering, manufacturing and construction industries
Code and classification of training areas	6B075 - Standardization, certification and metrology (by industry)
Group of educational programs	B076 - Standardization, Certification and Metrology (by industry)
Type of EP	Current EP
ISCE level	6
NQF level	6
SQF of education level	6
Language of learning	Kazakh, Russian, English
Typical duration of study	4 years
Form of study	Full time, Distance learning
The complexity of the EP, not less	241 credits
Distinctive features of EP	-
University Partner ( JEP )	-
University Partner ( TDEP )	-
Social Partner ( DE )	-

Shymkent, 2020

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EP was considered by the Methodological Commission of the Faculty of Mechanics and Oil and Gas»  
protocol № 4 from 18 02 2020 y.

Chairman of MC Dosmakanbetov A.A.  
Sign

Considered and recommended for approval at the meeting of Educational and Methodical Council of M. Auezov SKSU.  
protocol № 4 from 16 02 2020 y.

Approved by the decision of the Academic Council of the University  
protocol № 10 from 18 02 2020 y.

## CONTENT

	Introduction	5
1.	Education programme passport	7
2.	EP learnin goutcomes	8
3.	Competences of ep graduate	9
4.	Summary table reflecting the volume assimilated credits of education program modules	11
5.	Information abou tthedisciplines	12
	Agreementsheet	30
	Appendix 1. Review from the employer	31
	Appendix 2. Expertopinion	34

## **Introduction**

### **1. Scope**

Designed for the implementation of bachelors training by educational program (hereinafter - EP) code "6B07510 - Standardization and Certification (by industry)" in RSE on right of economic management "M.Auezov South Kazakhstan State University" of RK MES.

### **2. Regulatory documents**

Education Act of the Republic of Kazakhstan (as amended and supplemented on 07/04/2018);

Standard rules for the operation of educational organizations implementing educational programs of higher and (or) postgraduate education, approved by order of the Minister of Education and Science of the Republic of Kazakhstan from October 30, 2018 No. 595 (registered with the Ministry of Justice of the Republic of Kazakhstan on October 31, 2018 No. 17657);

State obligatory standards of higher and postgraduate education, approved by order of the Minister of Education and Science of the Republic of Kazakhstan, October 31, 2018 No. 604;

The rules for the organization of educational process on credit technology education, approved by order of the Minister of Education and Science of the Republic of Kazakhstan on April 20, 2011 No. 152 as amended and supplemented of October 12, 2018 No. 563;

The rules of organizing and conducting professional practice and the rules for defining organizations as bases of practice, approved by the order of the MES of RK dated January 29, 2016 No. 107;

Comprehensive plan for improving the system of technical regulation and metrology until 2020, approved by the Decree of the Government of the Republic of Kazakhstan dated June 10, 2014 No. 635;

Professional standard "Standardization", approved by order of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" from 12.30.2019. Number 270;

Professional standard "Training of specialists in the field of technical regulation", approved by order of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" from 12.30.2019. Number 270;

Professional standard "Assessment in the field of accreditation", approved by order of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" from 12.30.2019. Number 270;

Professional standard "Quality control of products, processes, services", approved by order of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" from 12.30.2019. Number 270;

Professional standard "Confirmation of conformity of food products", approved by order of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" from 12.30.2019. Number 270.

### **3. Educational programs concept**

The goal of the educational program is coordinated with the mission of university and is aimed at preparing the intellectual elite of the country with advanced entrepreneurial skills, fluent in three languages, demonstrating conceptual, analytical and logical thinking skills, creative approach in professional activities, being able to work in national and international teams obtaining the lifelong strategy.

The educational program is harmonized with the 6th level of the National Qualifications Framework of the Republic of Kazakhstan, Industry Qualifications Framework (Technical

Regulation Services), with Dublin descriptors, 1 cycle of the Framework for Qualification of the European Higher Education Area, also with Level 6 of the European Qualification Framework for Lifelong Learning.

The educational program is focused on professional and social order through the formation of professional competencies associated with the necessary types of research, practical and business activities, adjusted to meet the requirements of stakeholders.

The uniqueness of EP 6B07510 - Standardization and Certification (by industry) is determined by the fact that standardization and certification are international tools in the field of quality management in all sectors of the country's economy, and bachelors with advanced knowledge and competencies in these areas are in demand in any enterprise and organization.

The educational program aims to achieve learning outcomes through the organization of educational process using the principles of Bologna process, student-centered learning, accessibility and inclusion.

Program learning outcomes are achieved through the following training events:

- classroom training: lectures, seminars, practical and laboratory classes - held in view of innovative teaching technologies, the use of the latest achievements of science, technology and information systems;

- extracurricular training: the independent work of the student, including under the guidance of a teacher, individual counseling;

- conducting professional practices at enterprises and organizations of all forms of ownership and activities - branch of the Republican State Enterprise "Kazakhstan Institute of Standardization and Certification", Body for confirmation of compliance of management systems of LLP «Turan Business Group», Body for confirmation of conformity of building products LLP «El Standard», SKOF RSE "Republican Veterinary Laboratory", LLP "Intertehservice ITS", etc., implementation of course and diploma works (projects).

The university has taken measures to maintain academic integrity and academic freedom, protection from any kind of intolerance and discrimination against students.

The quality of EP is ensured by the involvement of stakeholders in its development and evaluation, systematic monitoring and review of its content.

#### **4.Entry Requirements**

Established according to the Model Rules for admission to studies in educational organizations that implement educational programs of higher and postgraduate education by order MES RK №600 on 10.31.2018

## **1. EDUCATION PROGRAMME PASSPORT**

### **1.1 The purpose and objectives of education program by specialty**

EP objectives: Training competitive bachelors who are able to competently select and apply various approaches to studying problems in the field of standardization, confirmation of conformity (certification), accreditation, testing and quality management, based on knowledge of national, regional and international standards, who are able to apply their knowledge, evaluate and analyze the current state of technical regulation standardization development and certification, formulate and take effective solutions to production problems character.

EP tasks:

- the formation of socially responsible behavior in society, an understanding of the significance of professional ethical norms and adherence to these norms;
- providing basic undergraduate training that allows you to continue learning throughout life, to successfully adapt to changing conditions throughout their professional careers;
- providing conditions for acquiring a high intellectual level of development, mastering competent and developed speech, a culture of thinking and the skills of the scientific organization of labor in the field of technical regulation, standardization, certification and quality management;
- formation of graduates' competitiveness in the field of technical regulation, standardization, certification, accreditation, testing and quality management, to ensure that they can be employed as quickly as possible in their specialty or continue their education at subsequent levels of education
- fulfillment of the social order of the society for the development and development of the demanded specialists in the field of technical regulation, standardization and certification in the labor market
- raising the level of quality of education in accordance with the requirements of national and international standards based on the formation of students' motivation for professional improvement and self-realization
- possession of key, subject and professional competences for the subsequent successful professional activity in the field of technical regulation, standardization and certification
- the formation of students' readiness to organize and conduct research activities
- creation of conditions for intellectual, physical, spiritual, aesthetic development to ensure the possibility of their employment in the specialty or continuing education at subsequent levels of education.

### **1.2 List of qualifications and positions**

The graduate of this EP is awarded with degree of "Bachelor of Engineering and Technology in the specialty 6B07510 - Standardization and Certification (by industry) "

Bachelors by specialty 6B07510 - Standardization and Certification (by industry) can hold primary positions enterprises of a standardization specialist, technical expert in the field of accreditation, a quality specialist, a standardization engineer, teacher and tutor (trainings, retraining and advanced training in the field of technical regulation) without making requirements for work experience in accordance with the qualification requirements of the Qualification directory of positions of managers, specialists and other employees, approved by order of the Minister of Labor and Social Protection of the Republic of Kazakhstan from May 21, 2012 No. 201.

### **1.3 Qualification characteristics of the educational program graduate**

#### **1.3.1 Scope of professional activity**



The scope of professional activity is the establishment, implementation and monitoring of compliance with the norms, rules and requirements for products (services), processes and systems, their development, application and ensuring the quality and safety of products (services), processes, efficiency from the introduction of standards for producers and consumers.

### **1.3.2 Objects of professional activity**

The objects of professional activity of graduates are the management bodies, departments and services of enterprises and organizations, state and non-state forms of ownership, which are directly related to the formation and control of the quality and safety of products (services), processes, management systems, testing and control, methods and means of measurement, regulatory documentation, technical regulation, standardization, conformity assessment, accreditation, testing and quality management..

### **1.3.3 Subjects of professional activity**

Subjects of professional activity of the bachelor by specialty 6B07510 - Standardization and Certification (by industry) are regulatory and regulatory and technical documentation in the field of technical regulation, standardization and certification, accreditation, quality management systems, production and technical documents ensuring the production of competitive products (services).

### **1.3.4 Types of professional activity**

A bachelor by specialty 6B07510 - "Standardization and Certification" (by industry) can do the following types of professional activity:

- organizational and managerial;
- production and technological;
- calculated design;
- experimental research

## **2. EP learning outcomes**

**LO 1** Communicate freely in a professional environment and society in Kazakh, Russian and English.

**LO2** Demonstrate natural science, mathematical, social, socio-economic and engineering knowledge in professional activities, methods of mathematical data processing, theoretical and experimental research, regulatory documents and elements of economic analysis.

**LO3** Have information and computational literacy, the ability to generalize, analyze and perceive information, set goals and choose ways to achieve it, use modern information technologies in designing tools and technologies for quality management, accreditation, standardization and certification.

**LO4** Organize and develop various methodological documents on the management and control of the quality and safety of products (services), plan work on standardization and certification, systematic checks (updates), standards, technical regulations and other regulatory documents applied at enterprises and organizations of all industries.

**LO5** Ensure the fulfillment of tasks to improve the quality and safety of products / services, improve the system of technical regulation, standardization and certification, develop new and revise existing standards, technical regulations and other regulatory documents for TR objects.

**LO6** Assess the level of rejects and analyze the causes of its occurrence, introduce modern methods of quality management, testing and control, apply qualimetric and statistical methods for assessing the technical level of products.

**LO7** To formulate proposals for the creation of a TC, applications for joining the TC, the goals of projects (programs) on the application of standardization methods, principles of universal quality management, confirmation of conformity of products and services.

**LO8** Conduct product quality expertise, calculations and assessment of the economic efficiency of standardization, certification and implementation of international management systems



**LO9** Analyze the state and dynamics of product quality, evaluate its technical level, implement quality systems, food safety, environmental management, occupational health and safety management, social management, evaluate risks, innovative methods of standardization and certification.

**LO10** Develop plans, programs and methodologies for conducting certification tests, declare compliance, quality control and product safety based on statistical, qualimetric, innovative methods and principles of total quality management.

**LO11** Use research and entrepreneurial skills in monitoring and evaluating modern tools and techniques, including information and communication technologies in the face of uncertainty.

**LO12** Work effectively individually and as a member of the team, correctly defend your point of view, adjust your actions and use different methods of control and management, prepare reporting documentation.

### 3 COMPETENCES OF EP GRADUATE

**3.1** Successful completion of training in EP contribute to the formation of the following competences of a graduate:

- core competencies (CC)
- professional competencies (PC).

#### ***Core competencies:***

(CC1) in the field of *native language*

- the ability to express and understand concepts, thoughts, feelings, facts and opinions in the field of standardization and certification in written and oral forms (listening, speaking, reading and writing), as well as interact linguistically and creatively in a variety of social and cultural contexts: during study, at work, at home and at leisure;

(CC2) in the field of *foreign languages*

- ability to master basic communication skills in a foreign language - understanding, expressing and interpreting concepts, facts and opinions in the professional field, both verbally and in writing (listening, speaking, reading, writing) in the relevant range of social and cultural contexts, mastering skills mediation and intercultural understanding;

(CC3) *fundamental mathematical, scientific and technical training*

- the ability and willingness to apply educational potential, experience and personal qualities acquired during the study of mathematical, natural science, technical disciplines at the university, to determine ways of monitoring and evaluating the solution of professional problems, the development of mathematical and natural science thinking;

(CC4) *computer*

- the ability to confidently and critically use modern information and digital technologies for work, leisure and communications, mastering the skills of using, restoring, evaluating, storing, producing, presenting and exchanging information through a computer, communicating and participating in collaborating networks using the Internet for professional activities;

(CC5) *social*

- the ability to own social and ethical values based on public opinion, traditions, customs, norms and to be guided by them in their professional activities; know the cultures of the peoples of Kazakhstan and abide by their traditions; comply with the fundamentals of the legal system and legislation of Kazakhstan, including in the field of standardization, certification and quality management; know the trends of social development of society; be able to adequately navigate in various social situations; be able to find compromises, relate your opinion with the opinion of the team; own business ethics, ethical and legal standards of

conduct; strive for professional and personal growth; work in a team, correctly defend their point of view, propose new solutions; demonstrate tolerance towards other individuals;;

(CC6)*economic, managerial and entrepreneurial*

- the ability to know and understand the goals and methods of state regulation of the economy, the role of the public sector in the economy; master the basics of economic knowledge; possess the skills of critical thinking, interpretation, creativity analysis, drawing conclusions, evaluation; manage projects to achieve professional goals, manage staff, demonstrate entrepreneurial skills.

(CC7)*training*

- the ability to know and understand the legislative, regulatory and technical security of technical regulation, standardization, certification, accreditation, testing and quality management of enterprises and organizations of various industries, to have skills in evaluating activities and the achieved level of standardization by industry and field of application, to make proposals for their improvement, assess the need for resources and plan their use in solving the problem in the professional sphere, apply standardization methods to increase competitiveness to develop domestic products, develop and implement modern systems for managing the quality of products, processes and services, analyze documents for certification of products (services, processes, works) and quality systems, assess their compliance with the requirements of standards and other regulatory documents, apply problem-oriented methods of analysis, synthesis, optimization of quality management processes, standardization and certification.

(CC8)*cultural training*

- the ability to know and understand the traditions and culture of the peoples of Kazakhstan, tolerance to the traditions and culture of other nations of the world, aware of the attitudes of tolerant behavior; not subject to prejudice, has high spiritual qualities, formed as an intelligent person

(CC9)*additional competencies*

- ability to master the skills of critical thinking, interpretation, creativity analysis, drawing conclusions, evaluation; have creativity and an active lifestyle; make professional decisions under conditions of uncertainty and risk.

### 3.2 Matrix of correlation of EP learning outcomes in general with modules formed by competencies

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
CC1		+				+				+		
CC 2			+	+		+		+				+
CC 3		+	+						+			
CC 4			+		+			+				
CC 5	+								+		+	+
CC 6	+			+			+	+				+
CC 7					+	+	+	+	+	+		
CC 8	+			+	+					+		
PC 1						+	+				+	+
PC 2		+				+				+		
PC 3			+	+		+		+				+

#### 4.SUMMARY TABLE REFLECTING THE VOLUME ASSIMILATED CREDITS OF EDUCATION PROGRAM 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	Educational practice	Industrial practice	Final examination			exam	diff. offset
1	1	5	3	4	1	810	60				870	29	4
	2	5	5	2	1	840	60	30			930	31	6
2	3	6	2	2	3	870	60				930	30	5
	4	6	2	3	3	840	60		90		990	33	4
3	5	5	1	2	4	900					900	31	6
	6	3		1	1	720			180		900	30	0
4	7	3		4		600					600	20	4
	8	3		1	3	600					600	20	3
	9	1								600	600	20	0
Total		37	13	19	16	6210	240	30	270	600	7320	244	32

### 5. Information about disciplines

Module name	CYCL E	HS C /EC	Component Name	Brief course description (in 30-50 word)	Numbe r of credits	Formed LO (codes)
Module of the social science	GED	OC	Contemporary History of Kazakhstan	It allows to classify the conceptual foundations of national history, interpret the origins, the continuity of the Kazakh statehood and current problems of the history of modern Kazakhstan. Exposure to the analysis of the activities of the national intelligentsia in shaping the ideology of the liberation movement and the stages of the socio-economic modernization of Kazakhstan. Characterize the creation of a democratic state of law.	5	LO1, LO2, LO12
	GED	OC	Philosophy	The basics of the emergence of philosophy are examined, the features of the emergence of a culture of thinking are revealed, the concepts of “philosophy”, “worldview”, the essence and content of the concepts of “being,” “consciousness” are revealed. The relationship between the concepts of “knowledge” and “creativity” is considered, the essence and content of the category of the philosophy of freedom are revealed, the skills of identifying the essence of the philosophical problem, critical thinking, research skills of philosophical aspects, problems of practice and cognition are developed.	5	LO1, LO2, LO12
Module of socio-political knowledge	GED	OC	Social and Political Studies	Studied the theory of sociology, social structure and stratification of society, explained the role and the place of politics in society, the basic stages of formation and development of political science, including youth policy, the role of politics in the system of social life, the essence of the state, reveals state relationship and civil society . Develop skills in sociological research, analysis of socio-political information.	4	LO2, LO4, LO12
	GED	HSC /EC	Ecology and Fundamentals of	Acquaintance with the basics of safe human interaction with the environment (industrial, household, urban) and the basics of	3	LO2, LO3, LO5, LO11

			Life Safety	protection against negative factors in dangerous and extremely dangerous situations. Knowledge of the legislation of the Republic of Kazakhstan in the field of emergency situations; application of knowledge gained in solving problems guaranteeing the preservation of human health and efficiency in extreme situations		
	GED	HSC /EC	Fundamentals of Entrepreneurship Skills and Anti-corruption Culture/	Generates knowledge about the organization of the company, doing business. Develops skills in business planning, production and sales, market analysis; calculation of profit, income, profitability, solvency, liquidity of the company. Considers the essence of the factors of corruption. Forms an anti-corruption worldview, culture. It develops a civil stance towards corruption, realizes the values of the moral consciousness of countering corruption. Instills the skills of critical analysis of corruption.	3	LO1, LO2, LO6, LO12
	GED	HSC /EC	Fundamentals of Economics and Law	Examines the role of the state in market development, competition, demand, supply. Instills skills for calculating costs, income, turnover indicators and capital turnover. Allows you to critically explore the markets of factors of production, factor income. Forms knowledge by right. It instills the skills of analyzing the legality of events, the ability to refer to regulatory acts. Raises the level of legal consciousness, legal culture.		LO1, LO2, LO6, LO12
	GED	OC	Cultural Studies and Psychology	Understanding the socio-ethical values of society as a product of integration processes in the systems of basic knowledge of the disciplines of the socio-cultural-psychological module; analyze the features of psychological institutions in the context of their role in the modernization of Kazakhstani society; formulate programs for solving conflict situations in society, including in professional sodium; be able to correctly express and defend their own opinion of social importance	4	LO1, LO2, LO8, LO12
Module of communicative mobility	GED	OC	Kazakh (Russian) language	Development of cognitive and communicative activities in the Russian (Kazakh) language in the areas of interpersonal, social, intercultural communication.	10	LO1, LO2, LO4, LO9, LO10

				<p>Instilling the skills of discussing ethical, cultural, socially significant norms in discussions, ability to work in a team, teamwork, flexibility, creativity.</p> <p>Development of practical skills for interpreting text information, explaining their stylistic, genre specificity in various areas of communication.</p>		
	GED	OC	Foreign Language	<p>Compliance with the A1 level on the pan-European competence scale is cognitive and communicative competences.</p> <p>Compliance with the A2 level on the European scale of competences - cognitive, socio-cultural and communicative competences.</p> <p>Compliance with the B1 level on the pan-European competence scale is linguo-culturological, socio-cultural, cognitive, communicative competences.</p> <p>Compliance with level B2 of the European scale of competences - linguistic-cultural, socio-cultural, cognitive, communicative competences.</p>	10	LO1, LO2, LO4, LO9, LO10
	GED	OC	Physical Training	<p>Know the impact of health systems of physical education on health promotion, prevention of occupational diseases and bad habits, be able to overcome artificial and natural obstacles using various means of movement, organize the day regimen in accordance with the criteria of a healthy lifestyle, skills in the use of physical culture to increase resistance to various conditions of the external environment, organization and conduct of individual, collective and family holidays</p>	8	LO2, LO12
	BD	HSC	Professional Kazakh (Russian) Language	<p>The ability to use professional knowledge and skills in practice, to receive and evaluate information in the professional field from foreign literature, the ability to communicate competently in Kazakh and Russian languages, to use skills in dispute, discussion and controversy,</p> <p>master the basics of speech in professional culture, possess the skills of perception, understanding, and multidimensional analysis of speech and writing, use language</p>	3	LO1, LO2, LO4, LO9, LO10, LO12

				means to achieve communicative goals in a particular situation of communication, build a strategy of oral and written communication in accordance with the socio-cultural characteristics of the language being studied		
	ChD	EC	Kazakh Alphabet Based on Latin Graphics	Formation of Kazakh sounds taking into account the peculiarities of their pronunciation, the study of the phonetic features of Kazakh words and phrases based on the Latin script. The development of literacy skills based on the Latin alphabet. The ability to read texts in the Kazakh language using Latin graphics.	3	LO1, LO2, LO4, LO9, LO10, LO12
	ChD	EC	Culture of Speech and Communication in the Kazakh Language	Knowledge of the norms of the literary Kazakh language. Formation of a culture of speech in the Kazakh language, the development of oral and written speech through the use of phrase logical turns, proverbs and sayings. Skills of application of the Kazakh language in interpersonal and professional communications.		LO1, LO2, LO4, LO9, LO10, LO12
	BD	HSC	Professionally Oriented Foreign Language	Know the specifics of oral and written speech in the fields of professional, scientific, communication, construction and organization of text in a foreign language in the framework of professionally determined situations, the vocabulary of a foreign language in the field of instrumentation; be able to carry out professional activities in the linguistic, information-analytical and communicative aspects, apply a variety of language and speech means adequately; perceive and understand by ear the appropriate level of communications of a business, vocational nature.	3	LO1, LO2, LO4, LO9, LO10, LO12
	GED	OC	Information and Communication Technologies (in English)	Knowledge of computer systems, software. Development of skills in the use of information resources for searching and storing information, working with spreadsheets, working with databases. The use of methods and means of information protection; design and creation of websites, multimedia presentations. Skills of using e-government and e-books, various cloud mobile technologies, SMART technology		LO3, LO6, LO9



				management.		
Fundamentals of Engineering and Technical Sciences	BD	HSC	Higher Mathematics	The elements of linear algebra and analytic geometry are considered. Develop the ability to calculate the limit function. The acquisition of knowledge of the differential and integral calculus of a function of one variable. Knowledge of the concepts of functions of several variables. Argumentation of the optimal solution of differential equations. Skills of finding multiple integrals. Acquisition of theoretical knowledge on the theory of numerical, functional and power series and their convergence.	4	LO2, LO3, LO6, LO9
	BD	HSC	Applied Mechanics	Show the main elements of the structural scheme. Explain the principle of formation of mechanisms and their classification. Apply methods of structural, kinematic and dynamic analyzes to study the motion of a mechanical system. Name the criterion for the performance of machine parts. Explain the basics of general mechanics required for research, design and maintenance of machines, installations and equipment that meet modern requirements.	4	LO2, LO3, LO6, LO9
	BD	HSC	Engineering Computer Graphic	Knowledge and understanding of the rules for performing drawings with graphical information of various types and contents, the basics of graphical information representation, methods of graphical modeling of geometric objects, skills in developing and designing design documentation, analyzing graphical models of phenomena and processes.	3	LO2, LO3, LO6, LO9
	BD	HSC	Chemistry	Learns the basic concepts and laws of chemistry. The structure of matter, the general laws governing the course of chemical processes, chemical processes in solutions. Chemical bonding, energy and kinetics of chemical processes, chemical equilibrium. Classes of chemical compounds and types of reactions. Basics of chemical thermodynamics and kinetics: thermo chemistry; chemical equilibrium. Electrolyte solutions.	4	LO2, LO5, LO8

Measurement and evaluation of product quality				Hydrolysis of salts. Electrochemical processes.		
	BD	HSC	Applied Mechanics	The basic provisions of general mechanics are studied, the principle of the formation of mechanisms and their classification, the criteria for the performance of machine parts are explained. Methods of structural, kinematic and dynamic analyzes for studying the motion of a mechanical system are considered. The skills of calculating structures by analytical and numerical methods, using methods of constructing design schemes to analyze, model and solve production problems are developing	4	LO2, LO3, LO6, LO9
	BD	HSC	Standartization and certification	Knowledge of the nature and content of standardization and certification, the supervision system of ND requirements for standardization, legislative and ND, methodological materials on certification, understanding of the principles of standards development, ability to use the information base on standardization, national and international standards, NTD in the field of certification, skills in working with ND on standardization and certification; revision of existing standards and certification documents	3	LO2, LO4, LO8, LO10
	BD	HSC	General Theory of Measurements	Knowledge of various physical quantities, the international system of SI units, measurement methods, types of measurement errors, understanding of the distribution laws, analyze measurement schemes, factors affecting measurement results, skills of processing measurement results, establishing mathematical models, measured values and measuring instruments.	4	LO5, LO6, LO8, LO11
	BD	HSC	Qualimetry	Knowledge of legislative and regulatory acts, a system of supervision and control of product quality, basic and design features and product characteristics, understanding of the relationship of qualimetry with standardization and certification, ability to be able to apply the composition of product quality indicators in forecasting and planning product quality improvement, methods of analyzing data on the quality	4	LO5, LO6, LO8, LO9

				of products, the skills of finding the causes of marriage, determining weight coefficients, determining reference and rejection values of indicators, find Ia absolute values of properties and performance evaluation of the complex quality.		
	BD	HSC	Test and control Product Safety	Knowledge and understanding of the tasks of testing in the product quality assurance system, the current level of development of technological, mathematical, methodological, metrological and information support testing, certification and quality testing systems, the ability to use the methods and technology of testing, analyze the product control and testing system, planning skills processing of test results, making decisions about the quality of products based on test results	7	LO5, PO6, LO8, LO9
	BD	HSC	Training Practice	Acquaintance and study of the structure of STR RK, acquaintance with categories and types of standards, objects of standardization, with general technical standards, USDD, USTD, obtaining practical skills in working with Pointers of standards, monthly Pointers of standards for updating and applying standards in various sectors of the national economy, developing standards and analysis of ND for the products and services provided, the ability to work in a team.	1	LO2, LO4, LO12
	BD	HSC	Quality Systems	Knowledge of international ISO standards for various management systems, understanding of the methodological principles of building a general management system of an enterprise based on selected quality systems taking into account business processes of an enterprise, ability to plan work on the implementation of quality systems, skills to develop methods, processes and resources necessary for general quality management integrating quality systems into a common management structure.	5	LO4, LO7, LO9
	BD	EC	Quality Audit	Knowledge and understanding of the fundamentals of quality audit according to MS ISO 10011, application of integrated audit planning methods, methods of their conduct, analysis of identified nonconformities, skills in evaluating audit results,	5	LO4, LO7, LO9, LO10

				developing recommendations for improving quality management work		
	BD	EC	Certification of Quality Systems	Knowledge and understanding of the theoretical and applied principles of quality system certification, ISO international standards for various quality systems, skills for planning and conducting certification of IC, analysis of certification results for IC for identified inconsistencies in systems, ability to develop corrective and preventive actions, recommendations for improving quality systems certification		LO4, LO7, LO9, LO10
	BD	HSC	Practical Training for Students I	Consolidation of theoretical knowledge, familiarization with production technology, organization of work on the control of technological parameters, quality and safety indicators of specific products, ND, technical documentation skills, updating ND, identifying falsified products and using labeling rules.	3	LO2, LO4, LO6, LO10, LO12
Technical regulation system	BD	EC	Innovative Quality Management	Knowledge and understanding of the methodological foundations of innovation management, the ability to solve non-standard tasks aimed at producing innovative products and services, analyzing the innovative potential of enterprises to improve their competitiveness, skills in research and development related to the direction of the enterprise	5	LO5, LO7, LO9
	BD	EC	Innovation of Technological Processes and Products	Knowledge and understanding of the main directions of state policy of support of science and technology development in the Republic of Kazakhstan, types of innovations, their classification by content, level of novelty and adaptability. Skills to create competitive products, technologies, organization of the process of development and production of new types of products and services. Ability to analyze the innovative potential of industries, to commercialize innovative products		LO5, LO7, LO9
	BD	EC	Quality Management and Control	Knowledge, understanding of objects of control, the main problems in managing the quality of standardization objects, requirements of regulatory documents, the ability to classify types of control, develop control plans at all stages of the product life cycle. Skills of control of technical documentation,	5	LO5, LO6, LO7, LO9

				production, technological processes, input, technological, metrological and final control, analysis of work on confirmation of conformity of finished products, management systems.		
	BD	EC	Content and Language Integrated Learning	Knowledge and understanding of the role and place of the English language in international systems of standardization, certification and management, ability to work with the regulatory framework of international organizations for standardization, certification and accreditation, reading skills of English-language versions of ISO / IEC international standards, translation by cover methods and modified standards, analysis of the processes of updating and release of new versions of international regulatory documents.		LO2, LO4, LO8, LO12
	ChD	EC	Fundamentals of Industry Certification	Explanation of the features of industry certification, schemes and systems of conformity confirmation for products of various industries, demonstration of the rules and procedures for certification of products, the use of computer technology for planning and conducting certification work, analysis and selection of methods for controlling the quality of products and processes taking into account industry specifics of production.	4	LO3, LO5, LO6, LO8
	ChD	EC	Organizational and Methodological Basis of Industry Certification	Application of the basic principles and provisions for organizational and methodological work to form a regulatory framework for product certification, taking into account the technological features of production, knowledge of responsibility for violation of the law in the field of mandatory certification, skills in organizing industry certification work, preparation of various regulatory and methodological documentation		LO3, LO5, LO6, LO8
	ChD	EC	Practical Training for Students II	Acquaintance with the technology of production of products, services, testing and certification, skills in the development and implementation of international quality systems, standards, application of innovations in the field of equipment for the implementation of enterprises, BCC , TL, organize and carry	6	LO4, LO6, LO8, LO9, LO12

				out technical, technological, inspection control of certified objects of standardization .		
Standardization and quality of products and services	ChD	EC	Total Quality Management	Study of the history and development of quality management abroad and the Republic of Kazakhstan, the application of the concept of Total Quality Management (TQM) in the implementation of modern management systems in the practice of Kazakhstan enterprises, the skills of practical aspects of the implementation of TQM	4	LO3, LO5, LO6, LO8
	ChD	EC	Planning and Stimulating the Quality of Products and Services	Knowledge of the ideas of planning and stimulating the quality of products / services, standardization methods, requirements of legislative and regulatory documents of the system of technical regulation of the Republic of Kazakhstan, evaluating the effectiveness of developing and implementing standards at an enterprise, applying regional and international standards when planning work to improve the quality of products / services.		LO3, LO5, LO6, LO8
	ChD	EC	Workshop of the Technical Performer on Standardization in the Field of Technical Regulation	Knowledge and understanding of the goals, principles and methods of the system of technical regulation and standardization, the ability to plan standardization work at enterprises depending on the scope of activities and industry, skills in developing various production and technical documents, standards of organizations, updating the regulatory framework of production, development and implementation of various systems management, efficiency calculations from the implementation of standards	4	LO2, LO4, LO9, LO10
	ChD	EC	Workshop of the Technical Performer of the Specialty Normocontroller	Knowledge and understanding of the principles and methods of carrying out normative control of design, technological and technical documents of all kinds, meeting the requirements of USDD, USTD, USTPP standards, the ability to draw up work plans for the norm control of new, existing (actualization) ND, analysis of the technical level of production and scientific organization of labor, skills examination of project documentation, drafting of notifications of changes, expert opinion on the results of regulatory control		LO2, LO4, LO9, LO10

	ChD	EC	Accreditation of Certification Bodies and Testing Centers	Knowledge and understanding of the national, regional and international accreditation systems, activities of international organizations in the field of accreditation, goals, objectives and criteria for accreditation, the ability to conduct a selection of international standards that establish accreditation criteria depending on the scope of accreditation, skills of accreditation procedures, subjects of the accreditation system, application regulatory framework for assessing the competence of the subjects of the accreditation system	5	LO5, LO6, LO8, LO9
	ChD	EC	Quality Assurance of Certification Tests	Knowledge and understanding of the basic provisions of certification tests, certification schemes and types of certification tests, the principles of certification of the countries of the Customs Union and the CES, the skills of conducting certification tests; state and inspection control of certified products, accreditation of fire and security expertise and TL.		LO5, LO6, LO8, LO9
	ChD	EC	Licensing	Knowledge of legislative and regulatory acts in the field of licensing, liability for violation of the legislation of the Republic of Kazakhstan on licensing, understanding of the specifics of the licensing system, forms of documents for the right to obtain licenses, methods and procedures for obtaining licenses, analyzing the reasons for termination of a license used to obtain a license and licensing procedure.	5	LO3, LO4, LO8, LO9
	ChD	EC	Permitting System of the Republic of Kazakhstan	Knowledge of the fundamentals and principles of the system of permits and notifications of the Republic of Kazakhstan, types of activities falling under permits and notifications, understanding the structure of the system of permits and notifications, skills in drawing up the form of documents for the right to receive permits and notifications, ability to apply the methods and procedures for obtaining permits and notifications to engage in or other activities		LO3, LO4, LO8, LO9
	ChD	EC	Statistical Methods for Quality Control	Knowledge and understanding of the basic tools of statistical control, analysis and regulation of technological processes, the ability to choose statistical methods of quality management of	5	LO3, LO6, LO8, LO9



			of Products and Processes	products and processes, analyze identified defects, deviations and inconsistencies of statistical control results, skills of organizing technical, technological control and control of finished products, building a histogram, Shukharat map , Pareto charts, cause and effect charts, development of control sheets		
	ChD	EC	Statistical Methods of Quality Improvement	Knowledge and understanding of methods for distributing qualitative and quantitative attributes of products, processes, the ability to carry out selective characteristics of technological processes and their properties, testing statistical hypotheses, skills for conducting acceptance control based on a qualitative sign, drawing up a selective control plan based on a quantitative characteristic, applying statistical methods in the quality control system products and processes		LO3, LO6, LO8, LO9
	BD	EC	Technology Development of Normative Documents	Knowledge and understanding of the main provisions and requirements of national standards of the Republic of Kazakhstan in the field of development, approval and introduction of regulatory documents of various types and categories, ability to analyze changes in the legislative framework for the development of ND, skills in applying scientific methods of standardization in the development of ND, accounting and registry RK.	5	LO2, LO4, LO7, LO8, LO10
	BD	EC	Procedure for the Development and Approval of Regulatory Documents on Technical Regulation	Knowledge and understanding of the requirements of the technical regulation system for the development and approval of ND categories - technical regulations, preliminary national standard, consortium standard, ability to work with the regulatory framework of the technical regulation system of the RK, CU and EEC, to analyze the changes and additions to the regulatory framework, the application of the ND system technical regulation in the practice of industrial enterprises.		LO2, LO4, LO7, LO8, LO10
	BD	EC	Rules for the Application of International and Regional	There is a list of international standards for the development of national and international standards. regional standards international and regional standards.	5	LO2, LO4, LO7, LO8, LO10

			Standards			
	BD	EC	Harmonization of Normative Documents With International and Regional Requirements	Knowledge and understanding of the nature and content of the processes of harmonization of regulatory documents with international and regional requirements, analyze the main directions, approaches and principles of harmonization of ND based on the requirements of international and regional ISO / IEC standardization organizations, skills to work on drawing up plans for amending the ND of an enterprise international and regional standards		LO2, LO4, LO7, LO8, LO10
Regulatory support of standardization and certification systems	BD	EC	Product Marking	Knowledge and understanding of legislative and regulatory requirements for product labeling, labeling features by categories and types of products, ability to carry out the selection of TRCU depending on the object of technical regulation, skills for product identification, identification of counterfeit products by product labeling	5	LO3, LO6, LO8, LO9
	BD	EC	Environmental labeling	Knowledge and understanding of the nature and objectives of environmental labeling, the requirements of international standards for environmental labeling, the ability to analyze the types and forms of environmental information for product labeling, features of environmental labeling for various categories and types of products, skills of forming the necessary information for labeling, the choice of environmental signs, depending on the object of labeling.		LO3, LO6, LO8, LO9
	ChD	EC	Reliability and the Effectiveness of the Technique	Know and understand the general patterns in the design, manufacture, acceptance and operation of products to maximize their effectiveness, identify the laws of failure and restore the product, create the basics of reliability calculation, prediction of failures, determine methods of collecting, recording and analyzing statistical information, predict behavior product in a variety of conditions of application, test planning, control	4	LO3, LO5, LO6, LO9
	ChD	EC	Standardization technology	Knowledge and understanding of basic concepts and terms in the field of standardization of various techniques; systems of		LO3, LO5, LO6, LO9

				standards "Reliability in engineering", the ability to determine the classifications of risks, the main sources of reducing the reliability of technology, skills of mathematical calculations to determine risks, build a "Failure Tree"		
	ChD	EC	Design and Technological Quality Assurance	Knowledge and understanding of the USDD, USTD standards sets, the order of development of design, technical and technological documentation based on the requirements of the USDD and USTD standards, skills in conducting standard control of design, technical and technological documentation.	5	LO3, LO5, LO6, LO9
	ChD	EC	Control of technical documentation	Knowledge terminology in the field of control of technical documentation, types of technical documentation, requirements of regulatory documents for the development of technical documentation, ability to carry out control of technical documentation, skills to draw up acts of control, to develop recommendations for eliminating inconsistencies in technical documentation.		LO3, LO5, LO6, LO9
	ChD	EC	Procedure for Certification of Imported Products	Knowledge and understanding of legislative and regulatory requirements for certification of imported products, procedures for certification of imported products, types of conformity confirmation of imported products, carry out confirmations of compliance with the safety of goods imported into the territory of the RK application, contract, application for recognition of a foreign certificate	5	LO2, LO5, LO6, LO9
	ChD	EC	Legal and regulatory framework for certification of imported products	Knowledge and understanding of terminology in the field of legislative and regulatory framework for certification of imported products of the Republic of Kazakhstan and the CU countries, responsibility for violation of legal and regulatory requirements for certification of imported products, skills to confirm compliance and declaration of imported products in the Republic of Kazakhstan and the CU countries, application of certification schemes in the CU,		LO2, LO5, LO6, LO9
	ChD	EC	International	Knowledge and understanding of the history and prospects for	4	LO3, LO5,

			Standardization and Certification	the development of international standardization and certification, international standards organizations ISO and other standardization organizations (IEC, WHO, FAO, CEN, ETSI), tasks and functions of ISO committees, skills development of international standards, application of international and regional ND in the practice of work of domestic enterprises and organizations		LO7, LO9
	ChD	EC	International organizations for standardization and certification	Knowledge and understanding of the goals, objectives, organizational structure of international organizations for standardization, functions of committees of international organizations for standardization and certification and technical committees, definition of technical barriers to trade., Sanitary and phytosanitary standards		LO2, LO3, LO5, LO7, LO9
	ChD	EC	Methods of Product Identification	Knowledge and understanding of the basic concepts in the field of identification and falsification of products, structures and criteria for identification, types, methods, means and methods of identification; skills in product identification, identification and falsification of goods, application of the basic rules for barcoding goods	6	LO6, LO8, LO9
	ChD	EC	System identification of quality food products	Knowledge of the system of identification of the quality of food products, understanding of the requirements of TR CU to the identification of food products, the ability to assess current food safety systems, skills in applying methods, means and methods of identification, determining the authenticity and falsification of food products.		LO6, LO8, LO9
	ChD	EC	Introduction Of food Safety Standards (HACCP)	Knowledge and understanding of the history and prospects of development of the food safety system (HACCP), benefits from the implementation of HACCP, international standards in the field of food safety ISO 22000 series, technical regulations of the Customs Union in the field of food safety. Skills of development, implementation and support of procedures based on the principles of HACCP, conducting confirmation of compliance with the HACCP system, the procedure for	5	LO4, LO7, LO9, LO10

				obtaining the certificate of HACCP.		
	ChD	EC	Normative basis of food safety of the CU	Knowledge and understanding in the field of the regulatory component of the food safety system in the countries of the Customs Union, technical regulations of the CU and EurAs, national standards of the CU countries in the field of food safety, harmonized with ISO 22000, skills of implementing HACCP principles at food safety enterprises food compliance.		LO4, LO7, LO9, LO10
	ChD	EC	Effectiveness of the Introduction of Enterprise Standards	Know and understand the regulatory framework of the GSTR RK, ND development technologies, master the theoretical and practical base of implementation at enterprises of various types and categories of standards, evaluate the economic efficiency of their implementation, be able to compile various forms of ND for developers, conduct normative control of documentation, use an error classifier , calculate the costs of development and implementation of ND.	5	LO4, LO7, LO9, LO10
	ChD	EC	Standard maintenance of project management system in the enterprises	Knowledge and understanding of the history and prospects for the development of project management in the world and in the Republic of Kazakhstan, the terminological apparatus of project management, the concept of development of project management in the Republic of Kazakhstan, skills in applying guidelines to the body of knowledge in project management - PMBOK, PRINCE 2, basic requirements of MS ISO 21500, ISO 10006 and ST RK ISO 21500.		LO4, LO6, LO7, LO9, LO10
Module acquisition of new professional competencies	BD	EC	Minorprogram	Acquisition of additional competencies in the field of metrology and metrological support of production. Knowledge and understanding of the relationship between metrology and product quality assurance, international requirements for the legislative and regulatory framework of the EUM system, the ability to plan work on metrological supervision and control of technological processes of production, skills to work with standards in the field of TRM, development of metrological norms and rules calibration of measuring instruments	12	LO2, LO4, LO5, LO7, LO9, LO11, LO12
Moduleoffinalcertifi	BD	EC	Predegree	Examination of projects, programs, NDs and assessment of	8	LO2, LO4,

cation			practice	their compliance with legal and regulatory requirements, the use of modern information technologies in the professional field, the development of international management systems, product testing, qualimetric quality assessment, implementation of statistical management methods, state control over compliance with TR and standards, ND development, analysis of labor protection and ecology systems for their improvement, assessment of economic efficiency from the implementation of standards and management systems.		LO5, LO7, LO9, LO11, LO12
	ChD	EC	Writing and defense of degree work (project) or preparing and a graded exam	The goal is to identify the graduate's level of training for independent work in professional activities, acquired through theoretical training with the knowledge of the legislative and regulatory framework of S&C objects, the ability to critically evaluate, correctly choose the options of tasks in terms of quality and safety, social significance and effectiveness of S&C, skills applying research and experimentation to solve production problems. DP protection is held at the open meeting of the SEC.	12	LO2, LO4, LO5, LO7, LO9, LO11, LO12
MukhtarStudies	GED	EC	Mukhtar Studies	The life and work of M.O. Auezov is studied; analyzes the creative laboratory of the writer, his biography in context with the work; as the creator of Abayan science; researcher zhyr "Manas". Acquaintance with M.Auezov as a prominent public figure. The skills of analyzing the literary heritage of M. Auezov in world and eastern literature are being developed. Feelings of patriotism and love of country are instilled.	3	LO2, LO3
Abay Studies	GED	EC	Abay Studies	Knowledge of Abai's life and work, his role in enriching the national literary language, analyze M.Auezov's scientific and creative activities as the founder of a field of study in Kazakh literary studies - abay studies for understanding Abai's innovative poetry, skills in using Abai's creativity for spiritual self-development and cultural enrichment		LO2, LO3
Actual Problems and Modernization	GED	EC	Actual Problems and	Knowledge of the main directions of modernization of the public consciousness of Kazakhstani society, understanding of		LO2, LO3

of Public Consciousness			Modernization of Public Consciousness	the principles of formation of national consciousness, education, competition, pragmatism, preservation of national identity in the new conditions of political reforms and modernization of the economy of our country, analyze the message for the development of their own spiritual self-consciousness, the acquisition of skills of rapid adaptation to the dynamically changing conditions of modernity for the preservation of their culture, their own national code		
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# AGREEMENT SHEET

by Education Program 6B07510 «Standardization, certification and metrology  
(by industry)»

Director of AID

  
Sign

Omashova G.Sh.

Director of ASD

  
Sign

Zhagnabay N.Zh.

Director of DSPK

  
Sign

Bazhirov T.S.

## REVIEW

by Education Programme code 6B07510 «Standardization, certification and metrology (by industry)», developed in M. Auezov SKSU

### 1. Brief description of the enterprise and its business profile

Preparation of bachelors in the educational program 6B07510 - Standardization and certification (by industry), conducted at the department of "Standardization and Certification" since 2016, according to the new qualification reference book of specialties of the MES RK

### 2. Relevance and relevance EP

Relevance EP due to the need to train specialists in the field of standardization and certification for their implementation of strategic programs of industrial and innovative development of the Republic of Kazakhstan, in which the system of technical regulation and standardization plays a key role, as it aims to eliminate technical barriers to trade and create conditions for the integration of the Kazakh economy into standardization and conformity assessment system, innovation and development of high-tech product And to promote technology transfer and best practices.

Demand EP associated with the need to improve the competitiveness of Kazakhstan products in regional and world markets, which implies the development of economic relations and the presence of Kazakhstan in the world market as an equal partner. The value of standardization and certification (confirmation of conformity) in the production of products and the provision of services has increased significantly, which contributed to the formation of new views on their role in ensuring the quality and safety of goods and services produced in our country. Kazakhstan's accession to the WTO makes it necessary to develop and introduce methods and principles of standardization harmonized with international rules and regulations.

A very important element in the development of standardization and certification systems is the presence of specialists with knowledge and competences in this field. These trends and dictate the demand for the EP 6B07510 - Standardization and certification (by industry) for the preparation of such specialists in higher educational institutions of the country.

Learning outcomes and competencies, their relationship to the demands of the labor market

The educational program contains the results of training and competencies that allow graduates to:

- demonstrate knowledge and understanding in the field of standardization and certification of products, services and management systems, conformity assessment of subjects of the accreditation system

-apply knowledge and understanding at the professional level of the process of standardization and certification of products, services and management systems, accreditation of conformity assessment bodies, testing laboratories, production of new products, development and implementation of management systems

- evaluate ideas, formulate conclusions and solve problems in matters of developing and introducing changes to standards, conducting conformity assessment, accreditation in the field of conformity assessment, product quality management

- to work in a team, communicate information, ideas, problems and solutions on standardization, certification, accreditation and product quality management, both to specialists and non-specialists

The results of training and competencies are closely related to the demands of the labor market, since external examination and review of the EP goes through employers who review and review the EP when approving the program.

### 3. The presence of components that develop practical skills

Content EP It is aimed at preparing intellectual capital that satisfies the needs of the individual and society, based on the principles of “lifelong education” and self-education, mobility, development of creative thinking and competence-based approach. The EP includes components that form professional competencies, develop practical skills - Technical Executive Practicum on Standardization in the Field of Technical Regulation, Quality Audit, Innovative Quality Management, Product Marking, Technical Documentation Control, Product Identification Methods, Development Procedure and Regulatory Documents on Technical Regulation.

### 4. Content of the educational program (modules, disciplines)

The modular educational program contains modules that form skills and competences in the field of mathematical, natural, social and socio-economic sciences, modules of communicative mobility, giving competences to study the subject area in Kazakh, Russian and foreign languages, specialty modules, allowing to solve professional problems in standardization, certification and quality management using modern information communication technologies, to develop new and review existing standards and other regulatory documents on standardization, certification and quality management, develop and implement modern systems for managing the quality of products, processes and systems.

### 5. The quality of information about the disciplines EP

Information about the disciplines of the modules EP contains a description of the components of each module, allowing students to familiarize themselves with the name of the module, the cycle that includes the discipline, its content, learning outcome codes.

### 6. Conclusion EP

The educational program 6B07510 “Standardization and Certification (by Industry)” is aimed at training specialists in the field of standardization and

certification who meet the needs of society based on the principles of “lifelong

education” and self-education, mobility, development of creative thinking and a competence-based approach to solving problems by type of professional activity and allows students to give a broad education, which is necessary to understand the impact of standardization and certification systems ballroom and social context, provide students with communication skills for their participation in the further development of the technical regulation system, solid training in the field of standardization and certification, which will enable them to successfully compete in the labor market in all relevant areas, ranging from a standardization specialist to a state inspector in technical regulation and standardization.

Director of RSE FShT “KazInSt”



Beiseev S.A.

## Appendix 2

### **Expert opinion**

by Education Program code 6B07510 «Standardization, certification and metrology (by industry)»

1. The urgency of the EP is due to the need to train specialists who have system knowledge in the field of standardization and certification, a comprehensive understanding of standardization and certification methods, skills to apply them in the practice of enterprises and organizations who are able to competently choose and apply different approaches to the study of problems in the field of product quality management, processes and services, based on the knowledge of national, regional and international standards. five and analyze the current state of development of standardization and certification, as well as the ability to formulate and make effective decisions of productive tasks.

2. Compliance of the EP with the stated goals, consistent with the mission of the university, with the requests of employers and students

The EP corresponds to the goals set forth in it and is consistent with the mission of M.Auezov SKSU on training specialists in the field of standardization and certification based on the use of the achievements of science and technology, dynamism and advanced development of systems of standardization and certification.

The presented objectives of the study program are formulated and concretized in context with the students' needs, since they are formed on the basis of Dublin descriptors and are expressed through competences: in the field of the native language, a foreign language, fundamental mathematical, natural science, technical, computer, educational, social (interpersonal, intercultural, civil), entrepreneurial, economic, cultural training, conducting scientific research, additional and professional competences in the field of standardization, certification, technical regulation system, product quality management and services.

The employers' requests are specified in order to reflect the potential of the EP to provide students with solid training in the field of standardization and certification, which will allow them to successfully compete in the labor market in all relevant areas, ranging from a standardization specialist to a state inspector in technical regulation and standardization. The director of the branch in Shymkent and the Turkestan region of the Republican State Enterprise Kazakhstan Institute of Standardization and Certification, the director of the certification body for management systems of Turan Business Group LLP and specialists of the departments of standardization and quality management of a number of industrial enterprises of the city took an active part in the development of the educational program.

3. Compliance with the National Qualifications Framework of the Republic of Kazakhstan

The national qualifications framework contains eight qualification levels, which corresponds to the European qualifications framework and educational levels defined by the Law of the Republic of Kazakhstan “On Education”. The educational program 6B07510- Standardization and certification (by industry) corresponds to the sixth level of qualifications of the People's Republic of Kazakhstan, and is necessarily coordinated with potential employers and students.

3. Reflection in the EP of learning outcomes and competencies based on Dublin descriptors embedded in professional standards / industry framework

The curriculum contains learning outcomes and competencies based on Dublin descriptors, namely:

- A. knowledge and understanding;
- B. the use in practice of knowledge and understanding;
- C. ability to make judgments and formulate conclusions;
- D. communication skills;
- E. Skills in the field of education, taking into account three levels of training (undergraduate, graduate and doctoral studies), as stipulated by the terminology of the Bologna process.

The sectoral framework of qualifications on standardization (the project) is in the process of approval and approval, from which recommended names of graduate positions in EP standardization and certification are included in the EP.

### 3. Compliance with SCSE

The content of the educational program in terms of structure, content and volume corresponds to the SES approved by the PP of the Republic of Kazakhstan dated 23.08.2012. № 1080, with changes and additions of May 13, 2016 No. 292.

The volume of the cycle of general education disciplines is 57 credits, 112 credits are allocated to the component of the cycle of basic disciplines, and 60 credits to the component of the cycle of the main disciplines. The volume of all types of practices is 18 credits. Additional types of training are also provided, in particular, physical education 8 credits. For the entire period of study, students master 244 credits of theoretical education. In SCSE higher education, approved by the Government of the Republic of Kazakhstan 50 23.08.2012 №1080, with changes and additions of May 13, 2016 № 292, EP 6B07510 - Standardization and certification (by industry) set the labor intensity of the mandatory component equal to 117 credits, optional component - 114 credits, including cycles:

- GED - university component 51 credit, optional component - 6;
- BD - university component of 52 credits, a component of choice - 60
- ChD - college component 14, the component of choice - 46.

Thus, the EP was developed in accordance with the normative documents of the MES RK, including with the curricula of disciplines, according to the rules of modular structuring, competence-based approach and taking into account the results of mastering the modules and the entire modular curriculum in KZ credits.

Curricula are based on the principles of continuity, continuity and adaptability, contain a list of disciplines, number of credits, placement by semesters, types of classes and forms of control. All disciplines of the curriculum involve studying in semesters, taking into account the logical sequence based on prerequisites and post requisites. In the structure of the curriculum there are 3 cycles of disciplines distributed between the obligatory and the elective components. Along with this, the volume of credits, SIW professional practice and coursework (projects).

3. The structure and content of the EP, the application of the modular principle of their construction

The educational program 6B07510 - Standardization and Certification (by industry) implemented a modular training system. It helps to solve the problems of systematization of knowledge, their best assimilation, and consists in dividing information into specific doses — modules causing the necessary controllability, flexibility and dynamism of the learning process. The module is not only a section of the educational program, but also a system based on the interaction of various techniques and methods of educational activity, ensuring the integration of this module into a holistic learning system.

3. The presence in the EP of components to prepare for professional activities, developing key competencies, intellectual and academic skills, reflecting the changing requirements of society, including the implementation of the presidential program for mastering three languages: Kazakh, Russian and English

EP is aimed at obtaining professional and general educational competencies, such as: general education, social and ethical, economic and organizational and managerial, special and professional competences, develops students' readiness to change social, economic, professional roles, geographical and social mobility in conditions of growing dynamism change and uncertainty.

In the EP there are elements of the implementation of the presidential program for mastering three languages: Kazakh, Russian and English. The number of disciplines in English is 30%, in Kazakh - 50%, and in Russian - 20%.

3. The logical sequence of disciplines and the reflection of the basic requirements in the curricula and training programs

The sequence of modules/disciplines in the EP is logically justified, the principles of ensuring continuity, continuity, accessibility and consistency of the content of education in the curriculum and training programs are implemented.

3. Presence in programs of industrial practice for fixing the theoretical material expressed in the academic load in credits

In the EP there is a section “Providing professional practices: their types, main typical places of organization and conduct, assessment of results” which reflect the goals, objectives and results of professional practices for students of EP, the workload in the credits is given in the summary table reflecting the amount of credits practiced in terms of modules of the educational program.

3. Qualifications obtained as a result of the development of EP





Qualifications obtained as a result of the development of the EP - Bachelor of Engineering and Technology for the 6B07510 - Standardization and Certification (by industry).

Chairman of the expert committee

 c.t.s., associate professor Abzalova D.A.

Expert Panel Members:

1. Pechersky V.N. d.t.s, Professor 
2. Zhantasov M.K. c.t.s., associate professor 
3. Kaldybaeva B.M. PhD, associate professor 