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Higher and Postgraduate Educational Programs

☐ Project EP ☐ Participant of project EP

Date of registration in the Registry

24.02.2022

Registration number

6B07500048

Date of EP passport updating

08.07.2026 22:18

Field of education

6B07 Engineering, manufacturing and construction industries

Direction of personnel training

6B075 Standardization certification and metrology (by branches)

Group of educational programs

B076 Standardization, certification and metrology (by industries)

Educational program

6B07502 Standardization, certification and metrology (by branches)

EP purpose

Training highly qualified bachelor's degree graduates in the field of standardization, certification, and metrology, p
level of knowledge and skills, as well as professional and personal competencies sufficient for successful professi
enterprises of the Republic of Kazakhstan and beyond.

EP type

New EP

Level on NQF

6

Level on SQF

6

EP distinctive features

No

Language of education

Russian Kazakh multilingual

Professional Standard for EP

Exists

№	Name of professional standard
1	Assessment of conformity for food products
2	Metrology
3	Standardization

Professional standards (career standards)

Professional standard has been used at developing EP ☒

Professional standard №1



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Approval year2023

CCEA

Professions

Profession №1

Profession

Энергоаудитор

Уровень по ОРК6

Labor
functions

Выполнение работ в рамках Заключительного этапа: Оформление заключения по результатам выполнения работ в рамках Измерительного этапа: выполнение необходимых измерений, обработка полученных результатов, оформление протоколов измерений. Выполнение работ в рамках Аналитического этапа: Анализ и обработка полученной информации, подготовка отчетов. Выполнение работ в рамках Подготовительного этапа: разработка опросных листов, проведение опросов, подготовка отчетов.

Professional standard №2

Professional standard

Метролог

Approval year2025

CCEA

Professions

Profession №1

Profession

Инженер по метрологии

Уровень по ОРК6

Labor
functions

Метрологический контроль
Участие в разработке документов по стандартизации в области обеспечения единства измерений
Соблюдение техники безопасности
Участие в модернизации производства
Обеспечение точности измерений

Professional standard №3

Professional standard

Обслуживание вспомогательных систем

Approval year2024

CCEA

Professions

Profession №1

Profession

Инженер по метрологии

Уровень по ОРК6

Labor
functions

Соблюдение техники безопасности
Метрологический контроль
Участие в разработке документов по стандартизации в области обеспечения единства измерений
Обеспечение точности измерений
Участие в модернизации производства



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Degree to be conferred

Bachelor

Period of study

4

Date of approval EP on the Academic Council

27.04.2026

☒Existence of the annex to the license for the direction of personnel training

The license number on the direction of training

KZ49LAM00007465

☐The training format is online

☒EP accreditation existence

Atlas of new professions

не предусмотрено

Regional standard

<https://enic-kazakhstan.edu.kz/files/1744378861/ri-k-kartasy-zhet-su-oblysy.pdf>

Специалист по сертификации и экологическим стандартам

The formed educational outcomes

№	Educational outcome	Code	Reflects the labor function
1	To carry	ON'	Участие в разработке документов по стандартизации в области обеспечения единства изм
2	Plan and	ON'	Метрологический контрольУчастие в модернизации производстваОбеспечение точн
3	Have the	ON'	Участие в модернизации производстваСоблюдение техники безопасности Выполнение работ в рамках Аналитического этапа: Анализ и обработка полученной инфор
4	Organiz e	ON'	Обеспечение точности измеренийСоблюдение техники безопасности Выполнение работ в рамках Подготовительного этапа: разработка опросных листов, сбор
5	Analyze mathem	ON'	Соблюдение техники безопасностиМетрологический контрольОбеспечение точности
6	Evaluat e	ON'	Участие в разработке документов по стандартизации в области обеспечения единства изм Выполнение работ в рамках Заключительного этапа: Оформление заключения по результа
7	To analyze	ON'	Метрологический контрольУчастие в разработке документов по стандартизации в обла Выполнение работ в рамках Подготовительного этапа: разработка опросных листов, сбор
8	Organiz e a self-	ON'	Выполнение работ в рамках Измерительного этапа: выполнение необходимых измерений, Участие в модернизации производстваМетрологический контроль
9	Develop draft	ON'	Обеспечение точности измеренийУчастие в разработке документов по стандартизации
10	Posses s the	ON'	Метрологический контрольОбеспечение точности измеренийВыполнение работ в ра
11	Use the main	ON'	Метрологический контрольОбеспечение точности измерений Выполнение работ в рамках Подготовительного этапа: разработка опросных листов, сбор



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Monitor and

ON

Выполнение работ в рамках Измерительного этапа: выполнение необходимых измерений,

Выполнение работ в рамках Аналитического этапа: Анализ и обработка полученной инфор

Выполнение работ в рамках Заключительного этапа: Оформлние заключения по результа

Data on disciplines

Nº	Name of discipline	Short description of discipline	Cycle
1	Basics of Law and Anti-Corruption Culture	The objective is to familiarize students with the fundamental branches and institutions of law, the foundations of anti-corruption culture, as well as the patterns of emergence, development, and functioning of the state and law. The course cultivates anti-corruption awareness and a high level of theoretical knowledge concerning the primary functions of law within the state and society, its impact on the development of the rule of law and civil society, and the value of inclusion as an integral component of a just and equitable legal order. Particular emphasis is placed on fostering students’ understanding of the importance of human rights for all individuals, regardless of their social, cultural, physical, or other characteristics.	GED
2	Fundamentals of Scientific Research	The goal is to form knowledge about the principles, technologies, practical methods and techniques of conducting scientific research based on modern achievements of scientists. Forms the basic foundations of scientific culture and ethics, flexible perception of scientific texts, skills of effective application of acquired knowledge in planning and organizing research work, the ability to analyze and summarize research results.	GED
3	Ilyastanu	The purpose of the discipline is to develop a deep-thinking personality with high aesthetic taste, appreciating literature, art, traditions, culture and language of the Kazakh people through a deep and comprehensive study of the works of IlyasZhansugurov. Forms an understanding of the importance of the works of IlyasZhansugurov in the development of the Kazakh literary language; skills of intellectual and creative thinking, the ability to cherish the values of national and spiritual heritage.	GED
4	Fundamentals of Financial Literacy	The course is aimed at gaining knowledge and skills in the field of personal finance management. Also, as part of the course, students will learn how to use in practice all kinds of tools in the field of finance, save and increase savings, plan a budget competently, learn how to analyze financial information and navigate financial products to choose an adequate investment strategy.	GED
5	Ecology and Life Safety Basics	Purpose – the goal is to develop knowledge of the fundamentals of ecology, sustainable development, and life safety, enabling the analysis of ecological processes, the assessment of the socio-environmental consequences of anthropogenic activities, the assurance of environmental safety, and the application of methods and technologies for protection in emergency situations. Develops the ability to assess the impact of environmental factors on human health; to forecast ecological processes for planning and implementing measures aimed at enhancing life safety and ensuring environmental security; and to make informed decisions in adverse environmental and emergency situations, taking into account the potential consequences of accidents, disasters, and natural hazards within the framework of sustainable development principles.	GED

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ЕДИНАЯ ПЛАТФОРМА ВЫСШЕГО ОБРАЗОВАНИЯ English			
6	Economics and Entrepreneurship	modern society, develop economic thinking, and provide knowledge of the theoretical foundations and practical skills in the field of entrepreneurship. The program is aimed at forming a comprehensive understanding of the functioning of the economy, while delivering business education focused on acquiring applied competencies in various areas of entrepreneurial activity. Special attention is given to issues of sustainable development, efficient resource use, and the implementation of lean production principles as key elements of effective and environmentally responsible business practices. The course also explores the specifics of creating and successfully managing a business, taking into account modern requirements for environmental and social responsibility in entrepreneurship.	GED
7	Commodity Science of Food Products	Forms knowledge about the principles and methods of commodity science of food products, classification, assortment and coding of food products, conditions and modes of storage, transportation and sale, factors that form quality and quality indicators, requirements of regulatory and technical documentation, the order of acceptance, types of defects, defects and spoilage, as well as the causes of their occurrence, methods of expert assessment of the quality of food products.	BD
8	Labour Protection	Studies the issues of ensuring safety and labor protection, developing skills to use regulatory and legal acts containing safety and labor protection standards, as well as to monitor their compliance. Examines the idea of the relationship between the functional and psychophysiological capabilities of a person and his compatibility with the production environment, familiarizes with measures to prevent and reduce risks in the workplace and in technological processes. Forms knowledge about safety standards that characterize production conditions. Studies organizational and technical means of protecting workers from the effects of harmful factors.	BD
9	Fundamentals of Artificial Intelligence	The purpose of the discipline is to introduce students to the basic concepts, methods and applications of artificial intelligence. The discipline is aimed at studying the basic concepts, methods and algorithms that underlie the creation and application of artificial intelligence. As part of this course, students will learn the theoretical foundations of machine learning, neural networks, natural language processing algorithms, and computer vision. They will also get acquainted with the ethical, social and legal aspects of the application of artificial intelligence in various areas of life.	BD
10	Engineering Graphics	Examines the theoretical foundations of constructing a section of geometric bodies by a projection plane, determining its actual value and constructing unfolding of truncated geometric bodies. Studying the design of design documentation methods and techniques for performing schemes in the specialty. Forms knowledge about the conceptual foundations of the theory of displaying objects on planes, readiness to use the theoretical provisions of computer technology in the practice of design and engineering work.	BD
11	Qualimetry	Studies legislative and legal acts, methodological materials; basic technical and design characteristics of products; principles and methods of product quality assessment, specifics of the choice of product quality indicators; methods of analyzing data on product quality and ways to find the causes of defects. Develops skills in calculating and selecting quality indicators of various types of products.	BD
12	Mathematics	Studies mathematical methods and fundamentals of mathematical modeling, objects are created by idealizing the properties of real or other mathematical objects and writing these properties in a formal language. Examines the quantitative relations of objects of nature, technology and engineering. Forms a mathematical culture of thinking and skills of independent use of mathematics in professional activity. Forms knowledge in linear and vector algebra, analytical geometry and differential calculus.	BD



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13	Metrology	metrological study of design, technological and operational documentation; preparation of plans for the introduction of new measuring equipment, the introduction of advanced methods of measurement, testing and control.	BD
14	General Measurement Theory	The basic concepts and terms of measurements, measured values, units of physical quantities, factors affecting the measurement result, methods of experimental data processing, measuring instruments, as well as methods of ensuring the unity of measurement are considered. The role of measurements in the knowledge of human nature, the principles of construction of equations of measurement processes of various physical quantities. International system of units of quantities and foundations of the theory of dimensions.	BD
15	Statistical Methods of Product and Process Quality Control and Management	Studies the main points: statistical regulation of the technological process, adjustment of process parameters based on the results of selective control of product parameters carried out for technological support of a given level of quality.	BD
16	Certification and Standardization of Products and Services	Considers certification and standardization of goods of domestic production. The quality certificate confirms its compliance with the accepted standards. Examines the necessary documents for customs clearance of goods. Studies the emergence of new types of products and services, the tightening of safety requirements on the part of consumers for products that have been produced on the market for a long time, as the development of modern technologies stimulates the development of these industries. Forms knowledge of the management system and executive bodies, standardization and certification services.	BD
17	Product Testing, Control and Safety	Examines the main provisions and sections of testing, control and safety of products of various industries. Forms theoretical knowledge about the basic provisions of the methods of planning, organization and conduct of tests and control, about the processing of test results, methodological and technical issues of conducting research, determination and control tests of products of various industries. Studies at the modern level the development of technological, mathematical, methodological, metrological and information support of tests.	BD
18	Quality Management Systems	Studies the evolution of quality systems, technology and development and implementation of quality systems at the enterprise, information support of the quality system, principles of building quality management systems according to MS ISO 9000, rules for the confirmation of quality systems and productions; Develops the skills of assessing and analyzing the existing quality system at the enterprise, developing and implementing quality systems, planning internal audit, conducting corrective and preventive actions, and improving the quality management system. Develops the skills of carrying out systematic verification of standards and other regulatory documents applied at the enterprise; monitoring the performance of standardization work by the divisions of the enterprise.	BD
19	Standardization and Certification	Forms knowledge about the basic principles and rules of standardization and certification in the Republic of Kazakhstan, areas of application, schemes and systems of conformity assessment, rules and procedures for conformity assessment procedures for products and services, scientific and technical support for standardization and certification.	BD
20	Identification of Food Products	Studies procedures that provide unambiguous recognition of food products by distinctive features. Studies complex methods and techniques for identification and identification of falsification of food products, which should ensure the reliability of identification results.	BD



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21	Physics	fundamental theories and ideas, experimental and theoretical methods of physical science and their practical application. Helps to form experimental skills and skills of using instruments and instruments, processing measurement results, drawing conclusions based on experimental data.	BD
22	Chemistry	Studies the basic concepts and laws in the field of general chemistry, which will allow using the acquired knowledge in practice when solving problems and problems. Studies the basics of chemistry, fundamental and particular laws of chemistry. Forms the skills of applying knowledge of the theoretical foundations of chemistry in educational and practical activities, to make calculations of chemical reactions, to design and present the results of the experiment. Develops skills in setting up and performing the simplest chemical experiment and chemical analysis, using instruments to perform chemical analysis.	BD
23	Fundamentals of Technical Regulation of Food Quality	study the basics of technical regulation based on standardization, Metrology and conformity assessment. The basic concepts and components of technical regulation in the sphere of application of requirements to quality of food are considered.	BD
24	Fundamentals of Technical Regulation of Quality of Agricultural Products	The basic concepts and components of technical regulation in the field of application of requirements for the quality of agricultural products are considered. Studies the current state of technical regulation in connection with the adoption of the law in the Republic of Kazakhstan and the Eurasian Economic Union. Forms knowledge reflecting the specifics of the requirements for the quality and safety of agricultural products and their production processes.	BD
25	Applied Metrology	Considers the main types of practical metrological activities: verification and calibration of measuring instruments, development, standardization and certification of measurement techniques, metrological examination of technical documentation, analysis of the measurement condition.	BD
26	Labeling of Products and Services	Forms knowledge about product labeling. Studies the marking procedure, marking with a conformity mark of certified products used in the state system of technical regulation of the Republic of Kazakhstan, as well as indications of the right to label products and mark with a conformity mark.	BD
27	Accreditation of Certification Bodies and Testing Laboratories	Studies the basic concepts, goals and principles of accreditation, the main stages of accreditation, the state accreditation system in Kazakhstan, the functions and responsibilities of certification bodies, general requirements for certification bodies and testing laboratories, accreditation of certification bodies and testing laboratories, the rights and obligations of the accreditation body and audit experts, international accreditation organizations.	BD
28	The Use of Artificial Intelligence in Standardization and Certification	The purpose of the discipline is to provide students with basic concepts, methods and applications of artificial intelligence in standardization and certification. The discipline is aimed at studying the basic concepts, methods and algorithms underlying the creation and application of artificial intelligence. In this discipline, students study the theoretical foundations of machine learning, neural networks, natural language processing algorithms, and computer vision. They also learn about the ethical, social, and legal aspects of using artificial intelligence in various areas of life.	BD
29	Qualimetry in the Food Industry	Studies the basic principles of food quality management, methods of measuring and evaluating the quality of food products. Modern expert methods of qualimetry and quality management tools are considered, recommendations for their use in food industry enterprises are given.	BD
30	Food Safety Management Systems	The principles of food safety management based on international standards ISO 22000, HACCP, theoretical and practical issues on the stages of development and implementation of food safety systems are considered.	BD

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31	Testing and Testing Equipment in the Food Industry	characteristics of the testing process and testing equipment, testing of measuring instruments, certification tests, test benches and centers, test automation issues, certification of testing equipment in the food industry.	BD
32	Examination of the Origin of the Goods	Studies the rules for determining the country of origin of the goods, the status of the goods of the Eurasian Economic Union or foreign goods, the issuance of a certificate of origin and cancellation of its validity, the scope of application of ST KZ, the procedure for submitting applications, conclusions on the possibility / impossibility of issuing certificates, as well as obtaining certificates, the procedure for internal audit, industrial certification and the REX system (for exporters to Switzerland and Norway).	BD
33	Technology for the Development of Standards and Regulatory and Technical Documentation	Studies the types of regulatory and technical documentation, methods and methods of developing regulatory and technical documentation; the application of interstate standards in practice; the main complexes of general technical standards; is focused on the formation of students' skills to develop new and revise existing standards, specifications and other documents on standardization and certification; the ability to participate in the development of draft standards, methodological and regulatory materials, technical documentation and in the practical implementation of developed projects and programs, to monitor compliance with established requirements, applicable norms, rules and standards.	BD
34	International Organizations for Standardization and Certification	Studies current problems of the development of the system of technical regulation abroad, international organizations for standardization, certification and metrology, types of international standards; the current state of standardization, certification and metrology in the country and abroad.	BD
35	Food Safety	The purpose is to describe the processing, preparation and storage of food products in ways that prevent infection with foodborne diseases. Studies the principles of hygienic rationing of harmful substances in food products, rationing the use of biologically active additives, genetically modified sources in food products.	PD
36	Technical Regulations of The Eurasian Economic Union and the Procedure for Technical Regulation of Products During Import, Production and Operation on the Territory of the Republic of Kazakhstan	It is focused on the formation of students' skills to interpret the requirements of ISO standards in the context of auditing in the food industry; identify the process, define its boundaries and interacting processes; formulate and classify inconsistencies, identify opportunities for improving the QMS; measure the effectiveness of corrective measures; possess special terminology of auditing activities; skills of organizing, planning and conducting audits in the food industry in in accordance with ISO 9001, preparation of audit reports. It is focused on the formation of students' skills in summing up the results of internal audits of food industry quality management systems.	PD
37	Licensing and Consumer Protection	Develops skills in the practical application of regulatory documentation on licensing and consumer protection; collection and processing of source data for licensing and consumer protection. Studies the practices of the application of legislation on consumer protection, the development of skills in the formulation and differentiation of legal categories and the correct application of laws. Forms knowledge about the consumer, the basic rights of the consumer, the legal foundations of consumer protection in the sale of goods and legal issues of advertising goods and services.	PD
38	Technology of Processing of Animal Products	Studies the principles of drawing up technological schemes and developing operational technological instructions for processing and storing raw materials of animal origin. Forms knowledge about the technologies of production of livestock products, primary processing in farms of various forms of ownership and organizations for the sale of livestock production products. Studies the most effective ways of processing raw materials into products that people need in everyday life.	PD

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39	Metrological Support of Production	life cycle. Studies the organizational structure of metrological support and the regulatory framework. Describes the organization and provision of metrological maintenance of measuring instruments in production. Forms knowledge of the quality of technological processes of production, the quality of measurement and control operations performed during production and acceptance of finished products. Forms knowledge of the organization of metrological accounting, calibration and verification of measuring equipment (SIEVES) in an organization or enterprise, ensuring the required accuracy and quality of measurements.	PD
40	Modern Tools for Product Quality Control and Management	It contains knowledge about the relationship between product quality and the efficiency of the enterprise; the purpose and principles of using quality management tools and methods; advanced domestic and international experience in quality management; principles of building integrated systems at the enterprise, methods of evaluating the company's performance, the regulatory framework for product quality management. It is aimed at developing the skills to use the theoretical foundations and modern practice of quality management; on the basis of the TQM concept, formulate a long-term development policy of the organization and its implementation system.	PD
41	Technology of Processing of Crop Products	Studies storage and processing of grain, oil seeds, potatoes, sugar beets, vegetables, fruits and berries. Considers the stages that affect the results of storage and processing, as well as the principles of organizing and maintaining technological processes for storing and processing crop products. Forms knowledge about the quality of raw materials, their preparation for processing, about the main technological processes, the influence of their parameters on the quality of finished products.	PD
42	Environmental Certification	Examines procedures for confirming the conformity of products, services, facilities with environmental requirements. Examines the passage and registration of environmental certificate such as EU certificates, domestic environmental certificate and Euro certificate.	PD