

### Passport of the educational program

Code and classification of the field of education	6B07 Engineering, manufacturing and construction industries
Code and classification of the direction of training	6B075 Standardization, certification and metrology (by industry)
Number and name of the educational program group	6B07527 Standardization, certification and metrology in construction
Number and name of the educational program	Standardization, certification and metrology in construction
The purpose of the program	Training of highly qualified specialists with a competitive level of knowledge, skills and professional skills in the field of technical regulation and quality management in construction production, with the necessary professional and personal competencies sufficient for successful activity at enterprises of the Republic and beyond
Отличительные особенности образовательной программы	This OP is aimed at training bachelors in standardization, certification and metrology in the field of the construction industry and the examination of construction goods
Availability of accreditation	No
Learning outcomes	<p>Systematize, summarize legal and economic information for use in professional, including entrepreneurial activities. Analyze, summarize economic information and systematize safety standards for use in professional activities.</p> <p>To show knowledge and understanding of mathematical methods of calculations, calculations, basic concepts of analytical geometry at a professional level.</p> <p>Describe the knowledge and skills of using fundamental physical laws and theories, as well as methods of physical research; name solutions to typical problems and the use of analogues between phenomena of different nature.</p> <p>Explain the acquisition of skills in conducting chemical experiments, knowledge of reagents, acquisition of knowledge of methods of chemical water purification, the ability to determine the content of components.</p> <p>Analyze and systematize information on standardization objects obtained from various sources; show knowledge about the basic principles and provisions of certification in the Republic of Kazakhstan, areas of certification, schemes and systems for confirming conformity of products and services; study the Laws of the Republic of Kazakhstan "On ensuring the uniformity of measurements", "On technical regulation", "On accreditation in the field of conformity assessment"</p> <p>Analyze knowledge of documentation requirements accepted in professional communication; understanding of oral speech within professional topics; study the necessary information from foreign language sources.</p> <p>To study the formation of skills to create various genres of monologue texts; the development of the ability to conduct a conversation; purposefully exchange professional information on a specific topic.</p> <p>Choose the characteristics of the measuring instrument and their circuit structures;; prepare a study of methods for testing building structures,</p>

evaluate the determination of quality indicators of building structures; study design and technical documentation for measuring instruments, testing and control. To organize the development and implementation of quality systems in accordance with ISO international standards; to create technologies for designing data models at various levels; to create theoretical foundations for quality assurance and quality management of products and technological processes. Distinguish between the identification of gradations of quality and defects of goods, the causes of their occurrence and measures to prevent the sale of low-quality goods; determine the establishment of principles and methods of commodity science; evaluate the study of the properties and indicators of the assortment.

to nationalize legislative and regulatory legal acts, methodological materials on metrological support of production. analyze the state of metrological support, maintain measurement and control equipment in metrological working order, plan and perform measurement, testing and control processes, process results; Diagnose the procedure and methods of planning work on metrological control and production support. To determine the mastery of measurement production skills in construction at different stages of manufacturing and installation; distinguish the development of standards, norms, requirements and measurement methods in construction, depending on the type of tasks to be solved; confirm new measurement methods in construction with mandatory compliance with the international quality management system. Organize the verification, calibration and repair of measuring instruments. Develop calendar schedules for verification and calibration of measuring instruments; Determine the frequency of maintenance (maintenance), calibration, develop maintenance schedules and equipment calibration.

To study the methods of testing building structures, determining the quality indicators of building structures; to use computer technology to identify and encode goods; to show the calculation of control numbers of the barcode. Discuss calculations of errors, measurement uncertainties, calibration intervals, instrument service life.

Calculate the image of a flat figure from the image of a three-dimensional body; evaluate the shape of objects, apply scale; show methods for solving simple geometric problems. Study the requirements of regulatory documents for equipment and measuring instruments. Develop technical documentation for equipment and measuring equipment.

Compare analytical and numerical analysis of electrical circuits under any influences in the time and frequency domain; calculate transients in linear circuits; determine the parameters of four poles under different operating modes; analyze energy transmission over long lines.

to establish the composition of work operations, construction processes and works; to determine the composition of processes and operations of construction works; to assign its heat treatment in order to obtain a given structure and properties. To determine the main trends in the development of the production of building materials; To confirm the conditions of environmental impact on materials in structures and structures; to plan tests of building materials; to develop reports on the work performed;

	<p>Approve the choice of the design scheme, limit states, systems of reliability coefficients, calculation and construction of building structures. Analyze design schemes, limit states, system of reliability coefficients, calculation and construction of building structures; distinguish between standards of measurement accuracy and reliability of control and choose measuring, testing and control tools; develop a nomenclature of building materials; propose a classification of building materials; determine the principles and methods of production of artificial building materials, products and structures; Evaluate the level of product defects, violations in the process or service and compare the result with the requirements of regulatory documentation; analyze and interpret the data obtained during the evaluation, draw conclusions from observations.</p>
Awarded degree	Bachelor of Engineering and Technology in specialty 6B07527 Standardization, Certification and Metrology in Construction
List of qualifications and positions	<ul style="list-style-type: none"> <li>- standardization engineer;</li> <li>- certification engineer;</li> <li>- metrologist engineer;</li> <li>- metrologist technician;</li> <li>- inspector;</li> <li>- research associate;</li> <li>- quality manager.</li> </ul>
Professional area	<p>products, services, processes (works) and systems;  equipment of enterprises and testing laboratories (centers);  methods and means of measurement, testing, control;  regulatory documentation of standardization, certification, quality management, metrology systems;  metrological support of scientific, industrial, social and environmental activities;  commercial activity.</p>