

**MINISTRY OF LABOR AND SOCIAL PROTECTION OF THE  
POPULATION OF THE REPUBLIC OF KAZAKHSTAN**

**“DEVELOPMENT OF LABOR SKILLS AND STIMULATION OF  
WORKPLACES” PROJECT**

**EDUCATIONAL PROGRAM**

**1401000- Construction and maintenance of buildings and structures**  
(code and name of the specialty)

**Professional Qualification Level: Applied Bachelor**

**Duration of training: 2 years 10 months.**

**Astana, 2018**

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## INTRODUCTION

The educational program for the special 1400000 – “Construction and operation of buildings and structures” was developed in accordance with the State Compulsory Standard for Technical and Vocational Education, approved by the Government Decree of the Republic of Kazakhstan dated August 23, 2012 No. 1080, the National Qualifications Framework approved by the Protocol dated March 16, 2016 by the Republican Trilateral Commission on Social Partnership and Regulation of Social and Labor Relations.

The program is designed to implement the principles of democratic governance of education, expand the boundaries of academic freedom and the authority of educational institutions, which will ensure the adaptation of the system for technical and vocational education to the changing needs of society, the labor market economy. Flexibility of the program will allow to take into account the abilities and needs of the individual, production and society.

The educational program provides for the use of a modular-competence approach based on the development of the competencies assessment of the training organizations in the form of basic educational results, the use of modular training.

In accordance with this education program, the educational process in organizations for technical and vocational education is based both on a modular system and on the credit system of education.

The program ensures the application of a differentiated, individual approach to the students, the development of the students’ abilities for self-education, greater freedom in the selection of teaching methods by the teachers, the forms of organization and content of the training process, the acquisition by the students in the same objects of education of different levels - from the basics of the profession to the level of a highly skilled worker, middle level, applied bachelor.

Practice has shown that future specialists of middle level must necessarily pass all levels of training in TVE, namely - increased one and the qualification level of a middle level specialist, i.e. only after actually mastering of two or three competencies the worker can become a highly competent technician.

Based on this EP, the education organization develops working curricula and programs using appropriate methodological recommendations for working training and planning documentation.

Legislative and normative acts of the Republic of Kazakhstan, domestic and foreign scientific and methodical works in this field, materials on the state of the economy, labor market and professional education of Kazakhstan were used during the development of the presented experimental modular training program,.

## 1. SYMBOLS AND ABBREVIATIONS

BC	Basic competence
BM	Basic module
SCES	The State compulsory education standard
GD	Graduation design
FC	Final certification
C	Consultation
NQF	National Qualifications framework
GCEA	General classifier of types of economic activity
EP	Educational program
GED	General Education Discipline
SQF	Sectorial Qualifications framework
IC	Intermediate certification
PS	Professional standard
PC	Professional competence
PM	Professional module
LO	Learning Outcome
TVE	Technical and vocational education
TVE&PS	Technical and Vocational Education and Post-Secondary Education
CF	Condominium Facility
BD	Budget documentation
DED	Design and estimate documentation
GB	Governing body
H&CS	Housing and communal services
EE	Engineering equipment

## PASSPORT OF THE WORKING EDUCATIONAL PROGRAM

**Name (*specialty code and name*):** 1401000- Construction and operation of buildings and structures

**Name and code:** 1401354 - Applied Bachelor of estimated securing

**The purpose of the education program:**

training of highly qualified specialists who carry out work on the formation and updating of budget and regulatory framework, the current prices on resources and on the calculation of the estimated construction costs using automated software complexes.

**Level of education:** technical and vocational

**Professional qualification:** 4

**Skill levels on NQF/SQF:** 5

**Professional Area activity \*:** construction

**Type (s) of employment:**

1. Preparation of input data for the design and estimate documentation construction
2. Development of construction documents and determining of the estimated cost of construction
3. Organization of works on verification and admission-transfer of budget and financial documentation project and contracting organizations
4. Organization of the work on the formation and updating of budget and regulatory frameworks and current prices for construction resources

**Object(s) of professional activity:** construction and design organizations, public and private companies.

**Program Features\*\*\*\*:** The possibility to use dual forms of vocational training, credit system education.

**Form of study:** full-time

**Training dates:** 2 years 10 months.

**Language of Training** Russian

**The volume of credits/hours:** 165 credits /4950 hours

**Requirements for students\*\*\*\*\*:** persons with basic secondary education

### 3. COMPETENCY PROFILE

<p><b>The purpose of the training :</b> formation and estimate-update of the regulatory framework, the current prices for construction resources and carrying out calculations of the estimated construction costs using automated software systems</p>	<p>After completing the educational program, <b>the trainee</b> will be able to create and update the budget and regulatory framework, the current prices of construction resources and carry out calculations of the estimated construction costs using automated software systems</p>	
<p>Section names, section, group, class and subclass according to GCEA * (SAR)</p>	<p>NACE code: 41201 Section: [F] Construction Section: [41] construction of buildings Group: [412] the construction of residential and non-residential buildings Class: [4120] construction of residential and non-residential buildings GCEA code: 41202 Section: [F] Construction Section: [41] Construction of buildings Group: [412] Construction of residential and non-residential buildings Class: [4120] Construction of residential and non-residential buildings</p>	
<p>Scope of competences (<i>on core labor functions of professional standard or analysis profession</i>)**</p>	<ul style="list-style-type: none"> <li>-Preparation of input data for the design and estimate documentation for construction;</li> <li>-Development of construction documents and determining the estimated cost of construction;</li> <li>- Work organization on validation and acceptance-transfer budget and financial documentation project and contracting organizations;</li> <li>- Work organization on the formation and updating of budget and regulatory frameworks and current prices for construction resources</li> </ul>	
<p><b>General (Basic) Competencies</b></p>		
<p><b>Competence Code</b></p>	<p><b>Competence (in line with labor functions and skill levels)</b></p>	<p><b>Modules</b></p>



<b>Basic Competence</b>		
BC 1	Use professional vocabulary in the field of professional activity and prepare business papers in the state language	BM 1. The use of professional vocabulary and the preparation of business papers in the field of professional activity.
BC 2	Develop and improve the physical quality	BM 2. Development and improvement of physical qualities
BC 3	Apply basic knowledge of the economy in professional activities	BM 3. Application of basic knowledge of economics in professional activities
BC 4	Understand the history, role, and place of Kazakhstan in the world community	BM 4. Understanding the history, role, and place of Kazakhstan in the world community
BC 5	Apply Basics of Philosophy, social sciences for socialization and adaptation in society and the work collective	BM 5. Application of Basics of Philosophy, social sciences for socialization and adaptation in society and the work collective
BC 6	Follow the rules of labor protection and safety	BM 6. Occupational safety and prevention of accidents
BC 7	Use the laws of physics and apply information technology in professional activities	BM 7. Application of the laws of physics and the use of information technology in professional activities
<b>Professional Competence</b>		
PC 1	Define the source data volumes and construction works	PM 1. Determination of baseline data and construction works
PC 2	Compose budget documentation and determine the estimated cost of construction.	PM 2. Estimates and determination of the estimated cost of construction
PC 3	Participate in the admission and transfer of budget documentation	PM 3. Participation in the admission and transfer of

	and acts of works done	budget documentation and acts of works done
PC 4	Justify costs and keep a record of the customer and the contractor tools	PM 4. Justification of expenditure and accounting of funds of the customer and the contractor
PC 5	To organize the work for organizing the storage of approved budget documentation	PM 5. Work organization on systematization of storage of approved budget documentation
PC 6	Organize monitoring, processing and analysis of current prices for construction products and resources	PM 6. Organization of monitoring, processing and analysis of current prices for construction products and resources
PC 7	To participate in updating the estimated-regulatory framework	PM 7. Participation in updating of the estimated-regulatory framework
PC 8	Conduct engineering research works	PM 8. Implementation of design and research works

#### 4. LIST OF MODULES AND LEARNING OUTCOMES

Module name	Training outcomes (in accordance with the professional tasks)	Assessment Criteria of Learning outcomes	Module forming disciplines
<b>Basic Modules</b>			
BM 1. Application of professional vocabulary in the field of professional activity	TO 1. Know the grammar and terminology of the Kazakh (Russian) and foreign languages for communication in the sphere of their professional activities	CR 1.1. Possession of Lexico-grammatical material, necessary for professional communication	Professional Kazakh (Russian) language Professional foreign language Modern Russian/Kazakh language
		CR 1.2. . Knowing the grammatical material in the specialty	
		CR 1.3. The use of terminology in the specialty.	
	TO 2. To master the translation technique (with a dictionary) of professional-oriented texts	CR 2.1. Reading professional texts	
		CR 2.2. Translation (with a dictionary) of professional texts	
		CR 2.3. Development of a special vocabulary of foreign language vocabulary of professional orientation	
	LO 3. To work with organizational, administrative and informational documents using computer technology	CR 3.1. Drawing up in Kazakh (Russian) and foreign languages a resume, autobiography, description, statement, complaint, power of attorney, receipt	
		CR 3.2. Compliance with textual requirements	
		CR 3.3. Creation of documents on the	

		computer that meet modern requirements and established regulations	
BM 2. Development and improvement of physical qualities	LO 1. Strengthen health and healthy lifestyle	CR 1.1. Understanding and adhering to the fundamentals and culture of a healthy lifestyle	Physical education
		CR 1.2. Characteristics of the physiological basis of the respiratory, circulatory and energy supply systems under muscle loads	
		CR 1.3. Performing a set of exercises for general physical training	
	LO 2. To improve physical qualities and psycho-physiological abilities	CR 3.1. Characteristics of the basics of physical activity and methods of its regulation	
		CR 3.2. Selection and application of methods and means of physical culture to improve the basic physical qualities	
		CR 3.3. Implementation of control standards and tests provided by the program	
	LO 3. Provide first aid for injuries and accidents	CR 2.1. Understanding the causes of injury during exercise	
		CR 2.2. Using injury prevention methods	
		CR 2.3. Providing medical care for injuries	

BM 3. Applying of basic knowledge of the economy in professional activities	LO 1. Determine the forms and types of ownership, types of plans, basic economic indicators of the enterprise	CR 1.1. Understanding of the laws and principles of a market economy, tax policy, sources of inflation, the main stages and content of planning	Basics of Economics
		CR 1.2. Performing of the necessary economic calculations using mathematical methods to determine the main economic indicators of the enterprise	
		CR 1.3. Determination of the main economic indicators of the enterprise	
	LO 2. Understand the development trends of the world economy, the main objectives of the transition to a green economy	CR 2.1. Characteristics of the trends of the world economy	
		CR 2.2. Understanding the main objectives of the state transition to a "green" economy	
		CR 2.3. Applying the basic methods of calculating gross domestic product and gross national product for the state's transition to a green economy	
	LO 3. To determine the possibility of success and the risk of entrepreneurship	CR 3.1. Characteristics of goals, factors, conditions, organizational and legal forms of entrepreneurial activity	
		CR 3.2. Understanding the factors that determine entrepreneurial success	

		CR 3.3. Drawing up a business plan	
BM 4. Understanding the history, role and place of Kazakhstan in the world community	LO 1. Understand major historical events	CR 1.1. Understanding of chronology and understanding of the essence of historical events from antiquity to the present	History of Kazakhstan
		CR 1.2. Understanding the nature and purpose of political and social changes taking place in the Republic of Kazakhstan after independence	
		CR 1.3. Characteristics of the achievements of independent Kazakhstan	
	LO 2. Identify cause-effect relationships of historical events.	CR2.1. Determination of the main facts, processes and phenomena that reflect and characterize the integrity and consistency of the history of Kazakhstan	
		CR 2.2. Linking historical events	
		CR 2.3. Ability to work with historical sources	
	LO 3. Own knowledge to develop national identity	CR 3.1. The role and place of the Kazakh people in the common Turkic community, in the system of nomadic civilization, in the development of the historical and cultural community of the peoples of the Eurasian world	

		CR 3.2. Demonstration of spatial thinking, the ability to analyze historical material	
		CR 3.3. Characteristics of Kazakhstan in the system of foreign political relations of the modern world	
BM 5. Application of Basics of Philosophy, social sciences for socialization and adaptation in society and the work collective	LO 1. Master the basic concepts and information of philosophy, political science, cultural studies and sociology	CR 1.1 Understanding the essence of the concepts, categories and information of philosophy, political science, cultural studies and sociology	Basic Philosophy Cultural Studies Law basics Fundamentals of sociology and political science
		CR 1.2. Identification of problems and interrelations of the main categories and concepts of philosophy, political science, cultural studies and sociology	
		CR 1.3. Analysis of various points of view	
	LO 2. Understand international political processes, geopolitical situation and moral values, and norms that form tolerance and an active personal attitude	CR 2.1 Characteristics of the structure of the political system, history and the current state of the world and traditional religions	
		CR 2.2 Determining differences in extremist, radical and terrorist ideologies	
		CR 2.3 Tolerant perception of social, ethnic, religious and cultural differences	
	LO 3. Master the basic concepts and information about the main branches	CR 3.1 Possession of the basic provisions of criminal, civil and family law and	

	of law	information about taxes		
		CR 3.2 Understanding of responsibility for administrative and corruption offenses and respect for the principles of law and order		
		CR 3.3 Protection of rights in accordance with the law of labor		
BM 6. Occupational safety and prevention of accidents	LO 1. Follow safety rules and labor protection	CR 1.1 Normative technical acts on labor protection	Occupational safety and prevention of accidents	
		CR 1.2 Understanding the organization of labor protection in the enterprise		
		CR 1.3 Abidance of primary safety instructions		
	LO 2. Ensure compliance with process safety	CR 2.1 The management of sanitary and hygienic and sanitary-technical norms of the Republic of Kazakhstan in the organization of work		
		CR 2.2 Comply with the rules for the use of technological equipment, devices and tools, methods and techniques for safe work		
		CR 2.3 The application of the rules of first aid in case of accidents and other damages		
	LO 3. Develop safety and labor protection	CR 3.1 General sanitary and hygienic requirements for production premises		



	measures	and workplaces	
		CR 3.2 Organization of service monitoring and supervision of labor protection in the organization.	
		CR 3.3 Analysis of the organization's activities in order to identify risks in the field of occupational safety and health safety of personnel	
BM 7. Applying the laws of physics and the use of information technology in professional activities	LO 1. Apply the basic laws of physics	CR 1.1. Characteristics of physical phenomena and processes, principles of operation of devices and mechanisms using the conceptual apparatus of the school physics course (values, laws, models, concepts)	Physics, Maths, Information and communication technology
		CR 1.2. Understanding the essence of methods of working with information of physical content	
		CR 1.3. Understanding the basic laws of building physics	
	LO 2. Solve problems in the field of professional activity	CR 2.1. Characteristic of mathematical material	
		CR 2.2. Generalization of Mathematical Material	
		CR 2.3. Understanding of Mathematical Thinking	
		CR 3.1. Understanding methods of automated information	

	LO 3. Apply information technology in professional activities	processing, network technologies for processing and transmitting information
		CR 3.2. Understanding interpolation: the process of collecting, transmitting, processing and replenishing information; programming language; programming technology; computer graphics
		CR 3.3. Formation of resource information base for solving professional tasks

**Professional modules**

PM 1 Determination of initial data volumes and construction works	LO 1. Choose rules and rates for construction costs and study title lists, defective statements and working drawings	AC 1. Definition of standards and costs AC 2. Study title lists and defective statements AC3. Analysis of the regularity of the working drawings	Construction of buildings and structures; Essentials of Economics, Training and/or professional practice
	LO 2. Conduct an analysis of price lists and commercial construction proposals materials and equipment	AC 1. A study of the types and cost of construction materials price lists and KP, AC 2. comparison Pricelist and offers AC 3 tradeoff. price lists and commercial proposals of construction materials and equipment	
	LO 3. Perform calculations of	CR 1. Study of data control measurements,	

	quantities based on control measurements	CR 2. Calculations of amounts of works, CR 3. Analysing results	
PT 2 Drawing up estimate documentation and determination of the estimated cost of construction	LO 1. Compose local estimates, and object	CR 1. Identifying the elements of the cost of construction, CR 2. Justification of costs and ratios the cost of construction CR 3. Compilation local and object of estimate calculations	Building materials; Technology of building production. Construction of buildings and structures; Essentials of Economics, Training and professional practice.
	LO 2. Determine the estimated cost of construction	CR 1. Consolidated cost estimation CR 2. Harmonization of the estimated cost of construction CR 3. The definition of the final cost of construction	
	LO 3. Get the conclusion of comprehensive expertise	CR 1. Kitting and delivery estimates, CR 2. Organization of interaction with an expert organization, CR 3. Correction of estimate calculations on the observations of the examination CR 4. Getting the conclusion of the comprehensive examination	
PM 3 Participation in the admission and transfer of budget documentation and acts of works done	LO 1. Participate round-trip budget documentation	CR 1. Understanding the specifics of the project, CR 2. checking the completeness of the budget documentation CR 3. Transfer budget documentation performers,	Technology of building production. Construction of buildings and structures; Essentials of Economics,

	LO2. Check the reasonableness of expenses	CR 1. Checking the costs and ratios calculations act performed work, CR 2. Checking the operation of machines and mechanisms, calculations and other expenses, CR 3. Comparison of current prices for building materials on the market with a database of current prices	Training and professional practice.
	LO 3 Take acts performed quantities from contractor	CR 1. comparison of values of acts of works done with approved budget documentation CR 2. Adjusting the calculations of acts of works done, CR 3. Acceptance of acts of rendered services.	
PM 4 Justification of expenditure and accounting of funds of the customer and the contractor	LO1. Justify the cost of the customer or contractor	CR 1. Check payment help form No. 2.3 CR 2. formation of the actual cost of construction, CR 3. the Organization of payment for completed work	Building materials and products; Accounting and auditing; Fundamentals of Economics and management;
	LO 2. Formalizing cumulative statement executed and the residual quantities	CR 1. Comparative analysis of completed and remaining quantities, CR 2. Monitoring of mutual settlements, CR 3. Registration of works results in established forms,	
	LO3. Keep a record of construction cost	CR 1. Definition of migrating from	

	balances from prior periods	previous periods the remnants of construction costs, CR 2. Checking of mutual settlements, CR 3. Organization of acceptance of work performed	
PM 5 Work organization on systematization of storage of approved budget documentation	LO1. To determine the completeness of the budget documentation	CR1.Selection of approved budget documentation CR 2. Staffing of the budget documentation CR 3. Preparations for storage of construction documents	The basics of records management, The basics of archives, training and/or internships.
	LO2. To organize the work for organizing the storage of approved budget documentation	CR 1. Drawing up the credentials of the budget documentation CR 2. Maintenance work on the classification of the budget documentation CR 3. Organization of works on safekeeping of the budget documentation	
	LO 3. Comply with the requirements of occupational health and safety when storing the budget documentation	CR 1. Understanding the requirements of health and safety CR 2. The use of remedies CR 3. Assistance in obtaining occupational injury	
PM 6 Organization of monitoring, processing and analysis of current prices for construction products and resources	LO1. Explore and analyze the pricing process	CR 1.Research and analysis of the market of construction products and resources CR 2. Study of the pricing process CR 3. Use the pricing regulations	- Fundamentals of Economics and management; - Pricing basics in constructio
	LO2.	CR 1. Possession of	

	Check the validity of current prices	information about the State of current prices for construction products and resources CR 2. A comparative analysis of current prices for construction products and resources	n Training and/or professional practice (Internship)
	LO 3. Monitoring, processing and analysis of current prices	CR1. Monitoring of the cost of building products and resources CR 2. Processing and updating of current prices for construction products and resources CR 3. Analyzing the current price on construction products and resources	
PM 7 Participation in updating of the estimated-regulatory framework	LO1. Examine the regulatory, professional, electronic documents	CR 1. Understanding the need to update the estimated-regulatory framework, CR 2. Preparation of analysis of the work, CR 3. Study of the current budget and regulatory framework,	Fundamental s of Economics and management; Pricing basics in constructio n Training and/or professional practice (Internship)
	LO2. Prepare proposals to update the NSS	CR1. Identification of non-conformity in the estimate-regulatory framework CR 2. Preparation of a comparative analysis of estimated-regulatory framework CR 3. Preparation of proposals for updating the estimate-regulatory framework	
	LO 3. To participate in	CR 1. Study of the current state budget	

	updating the estimated-regulatory framework	and regulatory framework CR 2. Consideration of proposals for updating the estimate-regulatory framework	
PM 8 Implementation of design and research works	LO 1. Study of synthesis and technology of building manufacture, normative-legal acts, methodical materials	CR 1. Analysis of the technology of building manufacture, normative legal acts existing teaching materials CR 2. Identification of innovative technology of building production for organization of project and research work CR 3. Analysis of the results of fundamental and exploratory research and preparation of analytical review	The foundations of a market economy; Construction of buildings and structures; Building technology, the technology and organization of construction production
	LO 2. Study the methods of research and project activities	CR 1. Study of methods of research and project activities, principles of selection methods CR 2. Selection and justification of the adopted directions of research and solutions CR 3. Formation of forward-looking skills acquisition, skills and knowledge required for the simplest implementation of scientific work CR 4. Participation in the updating of the estimate-regulatory	

		framework	
	LO 3. Participate in planning, research and project activities	CR 1. Definition of methods and topics of research and project activities CR 2. The use of innovative construction technologies CR 3. Participation in planning, research and project activities	



#### 4.1 Specification of the basic module 1

##### “Application of professional vocabulary and business documents writing in the state language”

<b>Sphere of competence</b>	-
<b>Module Name</b>	Application of professional vocabulary in the field of professional activity, preparation of business papers in the state language
<b>Module purpose</b>	After studying this module, the student will be able to apply professional vocabulary, make business papers in the state language
<b>Proficiency Level</b>	5
<b>Learning outcomes</b>	LO 1. To know the grammar and terminology of Kazakh (Russian) and foreign language for communication in the sphere of one's professional activity LO 2. To know the technique of translation (with vocabulary) of professionally oriented texts LO 3. 3. To work with organizational, administrative and informational documents with the use of computer technology.
<b>Summary of content (sections, topics)</b>	1. Knowing the lexical material in the specialty; 2. Possession of grammatical material in the specialty; 3. The use of terminology in the specialty; 4. Reading professional texts; 5. Translation (with a dictionary) of professional texts; 6. Development of a special vocabulary of foreign language vocabulary of professional orientation 7. Drawing up in Kazakh (Russian) and foreign languages a summary, autobiography, description, statement, complaint, power of attorney, receipt; 8. Compliance with the requirements for the text of the document; 9. Writing of documents on the computer that meet modern requirements and established regulations.
<b>Prerequisites</b>	Knowledge of the school course of Kazakh, Russian, foreign language; Introduction to the specialty.

<b>Disciplines forming the module</b>	Professional Kazakh (Russian) language Professional foreign language Modern Russian / Kazakh language Office work in the state language
<b>Module type (compulsory, optional)</b>	Compulsory
<b>Workload (credits / academic hours)</b>	6 credits /180 hours
<b>The duration of the module</b>	3 semesters
<b>Form of study</b>	intramural
<b>Education technology</b>	Modular
<b>Forms of educational process organization</b>	Lecture, office hours, practical session, laboratory classes, practices.
<b>Teaching methods</b>	Oral enquiry, business games, testing, presentation, report, reference paper, message, interview, creative task, colloquium, case-task, credit
<b>Form of control</b>	Pass fail exam, exam
<b>Necessary resources</b>	<p>Personal computer, educational and methodical literature in the disciplines: professional Kazakh (Russian) language, professional foreign language, modern Russian / Kazakh language, paperwork in the state language.</p> <p>В. Murzalina, S. Nurkeeva, G. Nurgazina, M. Sagyndykova, S. Baitasova. Textbook for intensive teaching of the Kazakh language, 2009;</p> <p>V. A. Radovel English for technical universities. Tutorial, 2016</p> <p>Жахина Б., Құрманова А.Қ., Қайырбекова И.С. Мемлекеттік тілде іс қағаздарын жүргізу курсы. - Көкшетау, 2003. – 120 б.</p> <p>А.Баймуханова. Мемлекеттік тілде іс қағаздарын жүргізу. Алматы, 2010</p> <p>Н. Егіншебаева. Мемлекеттік тілде іс қағаздарын жүргізу. Алматы, 2012</p> <p>Б.Айтбаева, Г.Абдрахманова. Қазақ тілі (B2 деңгейі).Қарағанды, 2012</p>

<b>Language of instruction</b>	Russian, Kazakh
<b>Post requisites</b>	PM 1- PM 8

**4.2 Specification of the basic module 2**  
**“Development and improvement of physical qualities”**

<b>Sphere of competence</b>	-
<b>Module Name</b>	Development and improvement of physical qualities
<b>Module purpose</b>	By the end of this module, the student will be able to develop and improve physical qualities.
<b>Proficiency Level</b>	5
<b>Learning outcomes</b>	LO 1. To strengthen health and abide by the principles of a healthy lifestyle; LO 2. To improve physical qualities and psycho-physiological abilities; LO 3. To provide first aid for injuries and accidents.
<b>Summary of content (sections, topics)</b>	1. Understanding and adhering to the fundamentals and culture of a healthy lifestyle; 2. Characteristics of the physiological bases of the activity of the respiratory, circulatory and energy supply systems under muscle loads; 3. Performing a set of exercises for general physical training; 4. Characteristics of the basics of physical activity and methods of its regulation; 5. Selection and application of methods and means of physical culture to improve basic physical qualities; 6. Implementation of control standards and tests provided by the program; 7. Understanding the causes of injury during exercise; 8. The use of methods of injury prevention; 9. Providing first medical care for injuries.
<b>Prerequisites</b>	Valeology Psychology Biology
<b>Disciplines forming the module</b>	Physical education
<b>Module type (compulsory, optional)</b>	Compulsory
<b>Workload (credits / academic hours)</b>	6 credits / 180 hours
<b>The duration of the</b>	3 semesters

<b>module</b>	
<b>Form of study</b>	intramural
<b>Education technology</b>	Modular
<b>Forms of educational process organization</b>	Lecture, office hours, practical session, laboratory classes, practices.
<b>Teaching methods</b>	Oral activities (conversation, lecture); visual, competitive; practical exercises.
<b>Form of control</b>	Pass fail exam, exam
<b>Necessary resources</b>	Gym equipped with equipment: Volleyball net; Basketball backboard; Multifunctional simulator; Simulator hyperextension; Bench for bench press; Simulator bench scott; Simulator t-neck; Table tennis; Gymnastic bench; Gymnastics mat; Gymnastic goat; Gymnastic bridge universal; The volleyball ball is massive; Basketball ball; Multimedia equipment, Internet resources and posters on occupational safety and health, fire safety and environmental protection, educational and methodical literature. Yu.I. Evseev. Physical education for university students. - Rostov-on-Don. -2003.
<b>Language of instruction</b>	Russian, Kazakh
<b>Post requisites</b>	PM 1 – PM 8

**4.3 Specification of the basic module 3**  
**"Application of basic knowledge of the economy in professional activities"**

<b>Sphere of competence</b>	-
<b>Module Name</b>	Application of basic knowledge of economics in professional activities
<b>Module purpose</b>	By the end of this module, the student will be able to apply the basic knowledge of the economy in their professional activities.
<b>Proficiency Level</b>	5
<b>Learning outcomes</b>	LO 1. To determine the forms and types of property, types of plans, the main economic indicators of the enterprise; LO 2. To understand the development trends of the world economy, the main objectives of the state transition to a green economy; LO 3. To determine the possibility of success and risk business.
<b>Summary of content (sections, topics)</b>	1. Understanding the laws and principles of a market economy, tax policy, sources of inflation, the main stages and content of planning 2. Perform the necessary economic calculations using mathematical methods to determine the main economic indicators of the enterprise 3. The definition of the main economic indicators of the enterprise 4. Characteristics of the trends of the world economy 5. Understanding the main objectives of the state's transition to a green economy 6. Application of basic methods for calculating gross domestic product and gross national product for the state's transition to a green economy 7. Characteristics of goals, factors, conditions, organizational and legal forms of entrepreneurial activity 8. Understanding the factors that determine business success 9. Drawing up a business plan
<b>Prerequisites</b>	Basics of state and law
<b>Disciplines forming the module</b>	- Fundamentals of economics
<b>Module type (compulsory, optional)</b>	Compulsory

<b>Workload (credits / academic hours)</b>	2 credits /60 hours
<b>The duration of the module</b>	1 semester
<b>Form of study</b>	intramural
<b>Education technology</b>	Modular
<b>Forms of educational process organization</b>	Lecture, office hours, practical session, laboratory classes, practices.
<b>Teaching methods</b>	Oral questioning, testing, report, abstract, creative task
<b>Form of control</b>	Pass fail exam
<b>Necessary resources</b>	Personal computer, Internet resources, educational and methodical literature in the disciplines: Fundamentals of Economics. Sakhariev, S.S. Modern course of economic theory [Electronic resource]: textbook / S.S. Saccharides; A.S. Sakhariev. - Almaty: Jurid. Lit. 2009
<b>Language of instruction</b>	Russian, Kazakh
<b>Post requisites</b>	PM 1 –PM 8

**4.4. Specification of the basic module 4**  
**"Understanding the history, role and place of Kazakhstan in the world community"**

<b>Sphere of competence</b>	-
<b>Module Name</b>	Understanding the history, role and place of Kazakhstan in the world community
<b>Module purpose</b>	By the end of this module, the student will understand the history, role and place of Kazakhstan in the world community.
<b>Proficiency Level</b>	5
<b>Learning outcomes</b>	<ol style="list-style-type: none"> <li>1. To understand major historical events</li> <li>2. To determine the causal relationships of historical events.</li> <li>3. To own knowledge for the development of national identity</li> </ol>
<b>Summary of content (sections, topics)</b>	<ol style="list-style-type: none"> <li>1. Understanding the essence of historical events that took place from antiquity to the present</li> <li>2. Understanding the nature and purpose of the political and social changes taking place in the Republic of Kazakhstan after independence.</li> <li>3. Characteristics of the achievements of independent Kazakhstan</li> <li>4. Determination of the main facts, processes and phenomena that reflect and characterize the integrity and consistency of the history of Kazakhstan</li> <li>5. Establishing links between historical events</li> <li>6. Ability to work with historical sources</li> <li>7. The role and place of the Kazakh people in the common Turkic community, in the system of nomadic civilization, in the development of the historical and cultural community of the peoples of the Eurasian world</li> <li>8. Demonstration of spatial thinking, the ability to analyze historical material</li> <li>9. Characteristics of Kazakhstan in the system of foreign political relations of the modern world</li> </ol>
<b>Prerequisites</b>	History of Kazakhstan (initial course)
<b>Disciplines forming the module</b>	History of Kazakhstan



<b>Module type (compulsory, optional)</b>	Compulsory
<b>Workload (credits / academic hours)</b>	4 credits / 120 hours
<b>The duration of the module</b>	2 semesters
<b>Form of study</b>	intramural
<b>Education technology</b>	Modular
<b>Forms of educational process organization</b>	Lecture, office hours, practical session, laboratory classes, practices.
<b>Teaching methods</b>	Oral survey, testing, report, abstract, creative task
<b>Form of control</b>	Pass fail exam, exam
<b>Necessary resources</b>	Personal computer, educational and methodical literature on the discipline of the history of Kazakhstan. Abdakimov A. History of Kazakhstan. - Almaty, 2002 Abylhozhin ZH.B. Essays on the socio-economic history of Kazakhstan XX century. - Almaty, 1997. Razdykov S.Z. History of Kazakhstan. Study guide for colleges. - Pavlodar, 2005. 165 p.
<b>Language of instruction</b>	Russian, Kazakh
<b>Post requisites</b>	PM 1-PM 8

#### 4.5 Specification of the basic module 5

##### "Applying of the basics of philosophical knowledge, social sciences for socialization and adaptation in society and the work places"

<b>Sphere of competence</b>	-
<b>Module Name</b>	Application of the basics of philosophical knowledge, social sciences for socialization and adaptation in society and the workforce
<b>Module purpose</b>	By the end of this module, the student will be able to apply the basics of philosophical knowledge, social sciences for socialization and adaptation in society and the workforce.
<b>Proficiency Level</b>	5
<b>Learning outcomes</b>	<ol style="list-style-type: none"> <li>1. To know basic concepts and information of philosophy, political science, cultural studies and sociology;</li> <li>2. To understand the international political processes, the geopolitical situation and moral values, and the norms that form tolerance and an active personal position;</li> <li>3. To know basic concepts and information about the main branches of law.</li> </ol>
<b>Summary of content (sections, topics)</b>	<ol style="list-style-type: none"> <li>1. Understanding the essence and essence of the concepts, categories and information of philosophy, political science, cultural studies and sociology</li> <li>2. Identification of problems and interrelations of the main categories and concepts of philosophy, political science, cultural studies and sociology</li> <li>3. Analysis of various points of view</li> <li>4. Characteristics of the structure of the political system, history and current state of the world and traditional religions</li> <li>5. Definition of differences of extremist, radical and terrorist ideologies</li> <li>6. Tolerant perception of social, ethnic, religious and cultural differences.</li> <li>7. Possession of the basic provisions of criminal, civil and family law and information about taxes</li> <li>8. Understanding of responsibility for administrative and corruption offenses and the observance of the principles of law and order</li> <li>9. Protecting your rights in accordance with labor</li> </ol>

	laws
<b>Prerequisites</b>	World history History of Kazakhstan
<b>Disciplines forming the module</b>	Basic philosophy Culturology Law basics Fundamentals of sociology and political science
<b>Module type (compulsory, optional)</b>	Compulsory
<b>Workload (credits / academic hours)</b>	6 credits / 180 hours
<b>The duration of the module</b>	4 semesters
<b>Form of study</b>	intramural
<b>Education technology</b>	Modular
<b>Forms of educational process organization</b>	Lecture, office hours, practical session, laboratory classes, practices.
<b>Teaching methods</b>	Oral questioning, testing, report, abstract, creative task
<b>Form of control</b>	Pass fail exam
<b>Necessary resources</b>	Personal computer, software, Internet resources, educational and methodical literature in the following disciplines: Fundamentals of Philosophy, Fundamentals of Law, Fundamentals of Sociology and Political Science, Cultural Studies. Bagdasaryan N. G. Culturology: Textbook. for stud. tech. universities / Coll. auth .; Ed. N. G. Bagdasaryan. - 3rd ed., Corr. and add. - M .: Higher. school., 2001.-511 p. Razdykov S.Z. Basics of political science. Textbook. - Astana, "Foliant", 2008. 312 p. Zelenkov A. I. Philosophy: an educational and methodical complex. - 2003. Mkrtychyan E.R. Basics of Sociology, Textbook, Volgograd, 2017 KS Birzhanov, K. B. Ibraeva. Basics of Law of the Republic of Kazakhstan, 2013
<b>Language of instruction</b>	Russian, Kazakh
<b>Post requisites</b>	PM 1 – PM 8

**4.6 Specification of the basic module 6**  
**"Labor protection and safety engineering "**

<b>Sphere of competence</b>	-
<b>Module Name</b>	Labor protection and safety engineering
<b>Module purpose</b>	By the end of this module, the student will be able to apply the necessary knowledge, skills of safe labor in industrial and domestic conditions, injury prevention and skills of providing a favorable business environment
<b>Proficiency Level</b>	5
<b>Learning outcomes</b>	<ol style="list-style-type: none"> <li>1. Follow safety rules and labor protection</li> <li>2. Ensure compliance with the safety of technological processes.</li> <li>3. Develop safety and labor protection measures</li> </ol>
<b>Summary of content (sections, topics)</b>	<ol style="list-style-type: none"> <li>1. Normative technical acts on labor protection</li> <li>2. Understanding the organization of labor protection in the enterprise</li> <li>3. Compliance with the initial safety instructions</li> <li>4. Management of sanitary and hygienic and sanitary-technical norms of the Republic of Kazakhstan in the organization of work</li> <li>5. Comply with the rules for the use of technological equipment, devices and tools, methods and techniques for safe work</li> <li>6. The application of the rules of first aid in case of accidents and other damages.</li> <li>7. General sanitary and hygienic requirements for production facilities and workplaces</li> <li>8. Organization of service monitoring and supervision of labor protection in the organization.</li> <li>9. Analysis of the organization's activities in order to identify risks in the field of occupational safety and health, personnel health</li> </ol>
<b>Prerequisites</b>	Physical education
<b>Disciplines forming the module</b>	Labor protection and safety engineering
<b>Module type (compulsory, optional)</b>	Compulsory
<b>Workload (credits / academic hours)</b>	3 credits / 90 hours

<b>The duration of the module</b>	1 semester
<b>Form of study</b>	intramural
<b>Education technology</b>	Modular
<b>Forms of educational process organization</b>	Lecture, office hours, practical session, laboratory classes, practices.
<b>Teaching methods</b>	Oral questioning, testing, report, abstract, creative task
<b>Form of control</b>	Pass fail exam
<b>Necessary resources</b>	Personal computer, educational and methodical literature on the subject of labor protection and safety. Amanzholov J. Occupational safety and health: a training manual. 3rd ed. - Astana: Foliant, 2014. 272 p.
<b>Language of instruction</b>	Russian, Kazakh
<b>Post requisites</b>	PM 1- PM 8

**4.7. Specification of the basic module 7**  
**"Applying of the laws of physics and the use of information technology in professional activities "**

<b>Sphere of competence</b>	-
<b>Module Name</b>	Application of the laws of physics and the use of information technology in professional activities
<b>Module purpose</b>	By the end of this module, the student will be able to use the laws of physics and apply information technologies in their professional activities.
<b>Proficiency Level</b>	5
<b>Learning outcomes</b>	<ol style="list-style-type: none"> <li>1. To apply the basic laws of physics;</li> <li>2. To solve problems in the field of professional activity;</li> <li>3. To apply information technology in professional activities.</li> </ol>
<b>Summary of content (sections, topics)</b>	<ol style="list-style-type: none"> <li>1. Characteristics of physical phenomena and processes, principles of operation of devices and mechanisms using the conceptual apparatus of a school physics course (values, laws, models, concepts)</li> <li>2. Understanding the essence of the methods of working with information of physical content</li> <li>3. Understanding the basic laws of building physics</li> <li>4. Characteristics of mathematical material</li> <li>5. Generalization of mathematical material</li> <li>6. Understanding Mathematical Thinking</li> <li>7. Understanding methods of automated information processing, network technologies for processing and transmitting information</li> <li>8. Understanding interpolation: the process of collecting, transmitting, processing and updating information; programming language; programming technology; computer graphics</li> <li>9. Formation of resource and information base for solving professional tasks</li> </ol>
<b>Prerequisites</b>	Physics Computer science School Math

<b>Disciplines forming the module</b>	Physics I, II Mathematics I, II Information and communication technology
<b>Module type (compulsory, optional)</b>	Compulsory
<b>Workload (credits / academic hours)</b>	3 credits / 90 hours
<b>The duration of the module</b>	2 semesters
<b>Form of study</b>	intramural
<b>Education technology</b>	Modular
<b>Forms of educational process organization</b>	Lecture, office hours, practical session, laboratory classes, practices
<b>Teaching methods</b>	Oral questioning, testing, report, reference paper, creative task
<b>Form of control</b>	Pass fail exam
<b>Necessary resources</b>	Personal computer, educational and methodical literature in the following disciplines: Physics I, II, Mathematics I, II, Information and Communication Technologies. Deshko I.P., Kovalev S.N., Kryazhenkov KG, Mordvinov V.A., Trifonov N.I., Tulinov S.V., Tsyarkin V. Information and Communication Technologies: A Manual, 2005. - P.147
<b>Language of instruction</b>	Russian, Kazakh
<b>Post requisites</b>	PM 1 – PM 8

#### 4.8. Specification of Professional Module 1 “Determination of baseline data and construction works”

<b>Scope of competence</b>	Preparation source data volumes and construction works design and estimate documentation for construction
<b>Module name</b>	Determination of baseline data and construction works
<b>The purpose of the module</b>	After training of this training module will be able to define the source data volumes and construction works
<b>Level of professional qualification</b>	4
<b>Learning Outcomes by Module</b>	<p>LO 1. Choose rules and rates for construction costs and study title lists, defective statements and working drawings</p> <p>LO 2. Conduct an analysis of price lists and commercial construction proposals materials and equipment</p> <p>LO 3. Perform calculations of quantities based on control measurements</p>
<b>Summary of Content (sections, themes)</b>	<ol style="list-style-type: none"> <li>1. Definition of ratios and costs</li> <li>2. Examination of title lists and defective statements</li> <li>3. Analysis of the regularity of the working drawings</li> <li>4. Study of the types and cost of construction materials price lists and commercial proposals,</li> <li>5. A comparison of price-lists and commercial proposals,</li> <li>6. Select the optimal cost of construction materials and equipment,</li> <li>7. examination of the data of monitoring measurements,</li> <li>8. Calculations of amounts of works,</li> <li>9. analysing the results construction materials and equipment</li> </ol>
<b>Prerequisites</b>	Physics; Mathematics; Engineering graphics;
<b>Module forming disciplines</b>	Construction of buildings and structures; Essentials of Economics, - Training and/or professional practice
<b>Module type (mandatory, optional)</b>	Mandatory
<b>Labor intense (credits)</b>	8 credits / 240 hours



<b>/academic hours)</b>	
<b>The duration of the module</b>	3-4 semester
<b>Form of teaching</b>	Full-time
<b>Education technology</b>	Modular
<b>The form of organization of educational process</b>	Lecture, SRSP, practical lessons, labs, practice.
<b>Teaching methods</b>	Oral questioning, business games, testing, presentation, report, summary, post, interviews, creative task, Colloquium, task, test case
<b>Control Forms</b>	Pass fail exam, exam
<b>Required Resources</b>	Personal computer software teaching materials, textbooks I.Razahov Construction of buildings and structures; S.K. Khamzin “Construction technology”
<b>Language of instruction</b>	Russian, Kazakh
<b>Post-requisites</b>	Building technology

**4.9. Specification of Professional Module 2**  
**“Estimates and determination of the estimated cost of construction”**

<b>Scope of competence</b>	The development of construction documents and determining the estimated cost of construction
<b>Module name</b>	Estimates and determination of the estimated cost of construction
<b>The purpose of the module</b>	After studying this module training will be able to be budget documentation and to determine the estimated cost of construction
<b>Level of professional qualification</b>	4
<b>Learning Outcomes by Module</b>	LO 1. Make a local object and estimate calculations LO 2. Determine the estimated cost of construction LO 3. Get the conclusion of comprehensive expertise
<b>Summary of Content (sections, themes)</b>	1. Identify the elements of the cost of construction, 2. rationale for the ratios and costs construction costs 3. Drafting of local and object of estimate calculations 4. Consolidated cost estimation 5. harmonization of the estimated cost of construction 6. the definition of the final cost of construction 7. complete set and delivery estimates, 8. The organization of interaction with an expert organization, 9. correction of estimate calculations on the observations of the examination 10. receipt of the conclusion of the comprehensive examination
<b>Prerequisites</b>	- Physics; Mathematics;
<b>Module forming disciplines</b>	Building materials and products; Technology of building production. Construction of buildings and structures; Essentials of Economics, Training and professional practice.
<b>Module type (mandatory, optional)</b>	Mandatory

<b>Labor intense (credits /academic hours)</b>	15 credits / 450 hours
<b>The duration of the module</b>	3-4 semester
<b>Form of teaching</b>	Full-time
<b>Education technology</b>	Modular
<b>The form of organization of educational process</b>	Lecture, SRSP, practical lessons, labs, practice.
<b>Teaching methods</b>	Oral questioning, business games, testing, presentation, report, summary, post, interviews, creative task, Colloquium, task, test case
<b>Control Forms</b>	Pass fail exam, exam
<b>Required Resources</b>	Personal computer software teaching materials, books O. Sabdenov “Foundations for a market economy”; I.Razahov Construction of buildings and structures; S.K. Khamzin “Construction technology”
<b>Language of instruction</b>	Russian, Kazakh
<b>Post-requisites</b>	Economy in construction

**4.10 Specification of Professional Module 3**  
**“Participation in the admission and transfer of budget documentation and acts of works done”**

<b>Scope of competence</b>	Participation in the admission and transfer of budget documentation and acts of works done
<b>Module name</b>	Participation in the admission and transfer of budget documentation and acts of works done
<b>The purpose of the module</b>	After studying this module training will be able to accept-transfer budget documentation and acts of completed works
<b>Level of professional qualification</b>	4
<b>Learning Outcomes by Module</b>	LO 1. Participate in the admission and transfer of budget documentation LO 2. Check the reasonableness of expenses LO 3 Take acts performed quantities from contractor
<b>Summary of Content (sections, themes)</b>	1. Understanding the specifics of the project, 2. Checking the completeness of the budget documentation 3. Transfer budget documentation performers, 4. Checking costs and ratios calculations of acts of works done, 5. Checking of operation of machines and mechanisms, calculations and other expenses, 6. comparison of the cost of building materials on the market with a database of current prices 7. Comparison of values of acts of works done with approved budget documentation, 8. Adjusting the calculations of acts of works done, 9. Acceptance of acts of completed works.
<b>Prerequisites</b>	Physics; Mathematics;
<b>Module forming disciplines</b>	Technology of building production; Construction of buildings and structures; Essentials of Economics; Training and professional practice.
<b>Module type (mandatory, optional)</b>	Mandatory
<b>Labor intense (credits /academic hours)</b>	13 credits / 390 hours
<b>The duration of the module</b>	3-4 semester

<b>Form of teaching</b>	Full-time
<b>Education technology</b>	Modular
<b>The form of organization of educational process</b>	Lecture, SRSP, practical lessons, labs, practice.
<b>Teaching methods</b>	Oral questioning, business games, testing, presentation, report, summary, post, interviews, creative task, Colloquium, task, test case
<b>Control Forms</b>	Pass fail exam, exam
<b>Required Resources</b>	Personal computer software teaching materials, books O. Sabdenov “Foundations for a market economy”; I.Razahov Construction of buildings and structures; S.K. Khamzin “Construction technology”
<b>Language of instruction</b>	Russian, Kazakh
<b>Post-requisites</b>	Economy in construction

**4.11 Specification of Professional Module 4**  
**“Justification of expenditure and accounting of funds of the customer and the contractor”**

<b>Scope of competence</b>	Organization of works on justification of expenditure and accounting of funds customer or contractor
<b>Module name</b>	Justification of expenditure and accounting of funds of the customer and the contractor
<b>The purpose of the module</b>	After studying this module training will be able to justify expenses and to keep records of customer or contractor tools
<b>Level of professional qualification</b>	4
<b>Learning Outcomes by Module</b>	LO1. Justify the cost of the customer or contractor LO 2. Formalizing cumulative statement executed and the residual quantities LO3. Keep a record of construction cost balances from prior periods
<b>Summary of Content (sections, themes)</b>	1. Check references on payment form No. 2.3 2. Formation of the actual cost of construction, 3. Organization of payment for completed work 4. A comparative analysis of completed and remaining quantities, 5. Monitoring of mutual settlements, 6. registration of works results in established forms, 7. Definition of migrating from previous periods the remnants of construction costs, 8. Verification of mutual settlements, 9. Organization of acceptance of work performed
<b>Prerequisites</b>	Physics; Mathematics; Construction of buildings and structures,
<b>Module forming disciplines</b>	Building materials and products; Accounting and auditing; Fundamentals of Economics and management.
<b>Module type (mandatory, optional)</b>	Mandatory
<b>Labor intense (credits /academic hours)</b>	11 credits / 330 hours
<b>The duration of the module</b>	3-8 semester
<b>Form of teaching</b>	Full-time

<b>Education technology</b>	Modular
<b>The form of organization of educational process</b>	Lecture, SRSP, practical lessons, labs, practice.
<b>Teaching methods</b>	Oral questioning, business games, testing, presentation, report, summary, post, interviews, creative task, Colloquium, task, test case
<b>Control Forms</b>	Pass fail exam, exam
<b>Required Resources</b>	Personal computer software teaching materials, books O. Sabdenov “Foundations for a market economy”; I.Razahov Construction of buildings and structures;
<b>Language of instruction</b>	Russian, Kazakh
<b>Post-requisites</b>	Economy in construction

**4.12. Specification of Professional Module 5**  
**“Work organization on systematization of storage of approved budget documentation”**

<b>Scope of competence</b>	Work organization on systematization of storage of approved budget documentation
<b>Module name</b>	Work organization on systematization of storage of approved budget documentation
<b>The purpose of the module</b>	After studying this module training will be able to organize systematization of storage approved budget documentation
<b>Level of professional qualification</b>	4
<b>Learning outcomes</b>	LO 1. To determine the completeness of the budget documentation LO 2. To organize the work for organizing the storage of approved budget documentation LO 3. Comply with the requirements of occupational health and safety when storing budget documentation
<b>Summary of Content (sections, themes)</b>	1. Selection of approved budget documentation 2. Staffing of the budget documentation 3. Preparations for storage of construction documents 4. Preparation of the credentials of the budget documentation 5. Maintenance work on the classification of the budget documentation, 6. Organization of works on safekeeping of the budget documentation 7. Understanding the requirements of health and safety 8. Use of preventive measures 9. Assistance during the occupational injury
<b>Prerequisites</b>	Foundations of life safety
<b>Module forming disciplines</b>	The basics of records management, The basics of archives, training and/or internships.
<b>Module type (mandatory, optional)</b>	Mandatory
<b>Labor intense (credits /academic hours)</b>	10 credits / 300 hours
<b>The duration of the module</b>	3-8 semester
<b>Form of teaching</b>	Full-time



<b>Education technology</b>	Modular
<b>The form of organization of educational process</b>	Lecture, SRSP, practical lessons, labs, practice.
<b>Teaching methods</b>	Oral questioning, business games, testing, presentation, report, summary, post, interviews, creative task, Colloquium, task, test case
<b>Control Forms</b>	Pass fail exam, exam
<b>Required Resources</b>	Personal computer, software, teaching materials, books O. Sabdenov “Foundations for a market economy”;
<b>Language of Training</b>	Russian, Kazakh
<b>Post-requisites</b>	Archiving

**4.13 Specification of Professional Module 6**  
**“Organization of monitoring, processing and analysis of current prices for construction products and resources”**

<b>Scope of competence</b>	Professional
<b>Module name</b>	Organization of monitoring, processing and analysis of current prices for construction products and resources
<b>The purpose of the module</b>	After studying this module training will be able to organize monitoring, processing and analysis of current prices for construction products and resources
<b>Level of professional qualification</b>	4
<b>Learning Outcomes by Module</b>	LO 1. Explore and analyze the pricing process LO 2. Check validity of current prices LO 3. Monitoring, processing and analysis of current prices
<b>Summary of Content (sections, themes)</b>	1. Research and analysis of the market of construction products and resources 2. Study of the pricing process 3. Use of pricing regulations 4. Ownership of the information on the status of current prices for construction products and resources 5. A comparative analysis of current prices on the building products and resources 6. Check the validity of current prices for construction products and resources 7. Monitoring of the cost of building products and resources 8. Processing and updating of current prices for construction products and resources 9. Analyzing the current prices for construction products and resources
<b>Prerequisites</b>	Physics; Mathematics;
<b>Module forming disciplines</b>	- Fundamentals of Economics and management; - Pricing basics in construction; - Training and/or professional practice (Internship)
<b>Module type (mandatory, optional)</b>	Mandatory
<b>Labor intense (credits /academic hours)</b>	11 credits / 330 hours

<b>The duration of the module</b>	5-7 semester
<b>Form of teaching</b>	Full-time
<b>Education technology</b>	Modular
<b>The form of organization of educational process</b>	Lecture, SRSP, practical lessons, labs, practice.
<b>Teaching methods</b>	Oral questioning, business games, testing, presentation, report, summary, post, interviews, creative task, colloquium, task, test case
<b>Control Forms</b>	Pass fail exam, exam
<b>Required Resources</b>	Personal computer, software, teaching materials, books O. Sabdenov “Foundations for a market economy”;
<b>Language of Training</b>	Russian, Kazakh
<b>Post-requisites</b>	Economy in construction

**4.15. Specification of Professional Module 7**  
**“Participation in updating of the estimated-regulatory framework”**

<b>Scope of competence</b>	Professional
<b>Module name</b>	Participation in updating of the estimated-regulatory framework
<b>The purpose of the module</b>	-Formation of knowledge in preparation information materials; - organization of access to information; -to equip students with knowledge and skills on estimated program complexes; -acquisition of knowledge and skills to ensure the security needed for professional work.
<b>Level of professional qualification</b>	4
<b>Learning Outcomes by Module</b>	LO1. Examine the regulatory, professional, electronic documents LO2. Prepare proposals for updating the estimate-regulatory framework LO 3. Update estimated-regulatory framework
<b>Summary of Content (sections, themes)</b>	1. Understanding the need to update the estimated-regulatory framework, 2. Preparation of work analysis, 3. Study of the current budget and regulatory framework, 4. Identification of non-conformity in the estimate-regulatory framework 5. Preparation of a comparative analysis of estimated-regulatory framework 6. Preparation of proposals for updating the estimate-regulatory framework 7. Study of the current state budget and regulatory framework 8. Consideration of proposals for updating the estimate-regulatory framework 9. Updating the estimated-regulatory framework
<b>Prerequisites</b>	Physics; Mathematics; Essentials of Economics
<b>Module forming disciplines</b>	- Fundamentals of Economics and management; - Pricing basics in construction; - Training and/or professional practice (Internship)
<b>Module type (mandatory,</b>	Mandatory

<b>optional)</b>	
<b>Labor intense (credits /academic hours)</b>	9 credits / 270 hours
<b>The duration of the module</b>	5-7 semester
<b>Form of teaching</b>	Full-time
<b>Education technology</b>	Modular
<b>The form of organization of educational process</b>	Lecture, independent work, practical lessons, labs, practice.
<b>Teaching methods</b>	Oral questioning, business games, testing, presentation, report, summary, post, interviews, creative task, Colloquium, task, test case
<b>Control Forms</b>	Pass fail exam, exam
<b>Required Resources</b>	Personal computer software teaching materials, books O. Sabdenov “Foundations for a market economy”; I.Razahov Construction of buildings and structures; S.K. Khamzin “Construction technology”, “a tutorial on course and diploma engineering construction technology and organization of production”
<b>Language of Training</b>	Russian, Kazakh
<b>Post-requisites</b>	Economy in construction, management of construction process

**4.15 Specification of Professional Module 8**  
**“Implementation of design and research works”**

<b>Scope of competence</b>	Design and research
<b>Module name</b>	Implementation of design and research works
<b>The purpose of the module</b>	After studying this module training will be able to carry out the design and research works
<b>Level of professional qualification</b>	4
<b>Learning Outcomes by Module</b>	LO 1. Studying the literature on organization design and research works LO 2. Plan of work of design and research LO 3. Conduct engineering research
<b>Summary of Content (sections, themes)</b>	1. Analysis of the construction technology, regulations, existing teaching materials, 2. Identification of the construction technologies and materials for organization of project and research work 3. Analysis of the results of fundamental and exploratory research and preparation of analytical review 4. The study of methods of research and project activities, principles of selection methods 5. Choice and justification of the adopted directions of research and solutions 6. Formation of forward-looking skills acquisition, skills and knowledge required for the simplest implementation of scientific work 7. Defining methods and topics of research and project activities 8. Application of new and innovative technologies 9. Participation in planning research and project activities
<b>Prerequisites</b>	Physics, mathematics
<b>Module forming disciplines</b>	- The foundations of a market economy; Construction of buildings and structures; Building technology, course and diploma design technology and organization of construction production - Training and/or professional practice (Coursework)
<b>Module type</b>	Mandatory

<b>Labor intense (credits /academic hours)</b>	7 credits / 210 hours
<b>The duration of the module</b>	3-8 semester
<b>Form of teaching</b>	Full-time
<b>Education technology</b>	Modular
<b>The form of organization of educational process</b>	Lecture, SRSP, practical lessons, labs, practice.
<b>Teaching methods</b>	Oral questioning, business games, testing, presentation, report, summary, post, interviews, creative task, Colloquium, task, test case
<b>Control Forms</b>	Pass fail exam, exam
<b>Required Resources</b>	Personal computer software teaching materials, books O. Sabdenov “Foundations for a market economy”; I.Razahov Construction of buildings and structures; S.K. Khamzin “Construction technology”, “a tutorial on course and diploma engineering construction technology and organization of production”
<b>Language of Training</b>	Russian, Kazakh
<b>Post-requisites</b>	Basics of communicative relations; Life safety

## PLAN OF EDUCATIONAL PROCESS

Code and the education profile: 1400000 - Construction and operation of buildings and structures  
 Specialty 1401000 - Construction and maintenance of buildings and structures  
 Qualification 1401354 - Applied Bachelor estimated ensure

Form of study: Full-time  
 Standard term of training: 2 year 10 months  
 on the basis of the basic secondary education

Index	Modules and types of training activities	Number of credits	Form control		The amount of training time (hours)					Distribution courses		
			Exam	Differential testing	Total hours	From them:						
						On the types of training		On the forms of organization training				
						Theoretical training	Laboratory and practical works, course projects and works	Practical training *	Audit, contact		SRO	
											SROP	SROS



<b>BM</b>	<b>Basic modules</b>	<b>30</b>	<b>3</b>	<b>8</b>	<b>900</b>	<b>630</b>	<b>270</b>		<b>720</b>	<b>180</b>	<b>60</b>	<b>1-6</b>
BM 1	Application of professional vocabulary in the field of professional activity	6	+	+	180	120	60	-	120	60	15	1-6
BM 2	Development and improvement of physical qualities	6	+	+	180	-	180	-	180	-		1-6
BM 3	Application of basic knowledge of economics in professional activities	2		+	60	60	-	-	30	30	15	1-6
BM 4	Understanding of the history, role and place of Kazakhstan in the world community	4	+	+	120	120	-	-	120	-		1-6
BM 5	Application of the basics of philosophical knowledge, social sciences for socialization and adaptation in society and the workforce	6		+	180	180	-	-	120	60	15	1-6
BM 6	Occupational safety and prevention of accidents	3		+	90	60	30	-	60	30	15	1-6
BM 7	Using the laws of physics and the use of information technology in professional activities	3		+	90	90		-	90			1-6
<b>PM</b>	<b>Professional modules on working qualifications</b>	<b>36</b>			<b>1080</b>	<b>600</b>	<b>240</b>	<b>240</b>	<b>600</b>	<b>480</b>	<b>120</b>	<b>1-6</b>
PM 1	Determination of baseline data and construction works	8	+	+	240	90	30	30	90	60	30	1-6
PM 2	Estimates and determination of the estimated cost of construction	15	+	+	450	270	120	120	270	240	60	1-6
PM 3	Participation in the admission and transfer of budget documentation and acts of works done	13	+	+	390	240	90	90	240	180	30	1-6

<b>PM</b>	<b>Professional Modules of Midlevel Specialist</b>	<b>21</b>			<b>630</b>	<b>300</b>	<b>240</b>	<b>90</b>	<b>300</b>	<b>330</b>	<b>180</b>	1-6
PM 4	Justification of expenditure and accounting of funds of the customer and the contractor	11	+	+	330	180	150	60	180	210	120	1-6
PM 5	Work organization on systematization of storage of approved budget documentation	10	+	+	300	120	90	30	120	120	60	1-6
<b>PM</b>	<b>Professional modules of applied bachelor qualifications</b>	<b>27</b>			<b>810</b>	<b>240</b>	<b>390</b>	<b>180</b>	<b>240</b>	<b>570</b>	<b>390</b>	<b>1-6</b>
PM 6	Organization of monitoring, processing and analysis of current prices for construction products and resources	11	+	+	330	90	180	60	90	240	150	1-6
PM 7	Participation in updating of the estimated-regulatory framework	9	+	+	270	90	120	60	90	180	150	1-6
PM 8	Carrying out design and research work	7	+	+	210	60	90	60	60	150	90	1-6
	<b>Subtotal:</b>	<b>114</b>			<b>3420</b>	<b>1770</b>	<b>1140</b>	<b>510</b>	<b>1860</b>	<b>1560</b>	<b>750</b>	
PP	Professional practice (academic, industrial, undergraduate)	42			1260			1260	180	1080	300	1-6
DD	Diploma design *	9			270		270		60	210	30	6
IC	Intermediate certification	10			300	300			300			1-6
FC	Final certification	2			60	60			60			6

	<b>Total compulsory education:</b>	<b>180</b>			<b>5400</b>							
		<b>(144</b>			<b>(4320</b>	<b>2130</b>	<b>1410</b>	<b>1770</b>	<b>2460</b>	<b>2850</b>	<b>1080</b>	
		<b>+36)</b>			<b>+1080</b>							
C	Consultation	10			300	300				300		1-6
O	Optional classes	11			330	330				330		1-6
	<b>Total:</b>	<b>201</b>			<b>6030</b>							
		<b>(165</b>			<b>(4950</b>	<b>2760</b>	<b>1410</b>	<b>1770</b>	<b>2460</b>	<b>3480</b>	<b>1080</b>	
		<b>+36</b>			<b>+1080</b>							

**Note:**

\* The forms of control (the number of course papers, examinations), the order of studying the disciplines (distribution by semester) are exemplary and can vary depending on the forms of study, the specifics of specialties, local and other conditions (circumstances), including, in accordance with the needs of employers.

\*\* In accordance with the State compulsory education standard the Technical and Vocational Education, educational institutions can change up to 50% of the amount of study time allocated for the development of educational material for modules, up to 50% for each module and up to 60% (up to 80% for dual training) of vocational training and professional practice with keeping the total number of hours for compulsory education.