Institute of Project Management
Department of "Management and Mathematical Economics"

EDUCATIONAL PROGRAM
6B04088(1)-Project Management in Construction

Code and classification of the field of education: 6B04 Business, Management and Law
Code and classification of training areas
Group of educational programs:
NQF Level: 6
QF-EHEA Level: 6
Duration of study: 4 years
Total number of credits: 240

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Almaty, 2023

Almaty, 2023

The educational program "Project Management in Construction" was approved at the meeting of the Academic Council of Satbayev University.

Minutes No. 10 dated March 6, 2025

Reviewed and recommended for approval at the meeting of the Educational and Methodological Council of Satbayev University.

Minutes No. 3 of December 20, 2024

The educational program "Project Management in Construction" was developed by the academic committee in the field of "Business and Management" with the support of the academic committee in the field of "Architecture and Construction."

Full Name	Academic Degree/ Academic Title	Position	Affiliation	Signature
Chairperson of the Academic Committee:				
Aliya Zhumabekovna Turegeldinova	**PhD**	**Head of Department**	SU	
Mate Miklos Fodor	PhD	Associate Professor	KazNRTU	
Salina Aigul Pazenovna	PhD	Candidate of Economics, Professor	KazNRTU	
Sarkambaeva Shynara Galimzhanovna	PhD,	Associate Professor Associate Professor	KazNITU	
Employers:				
Natalya Andreevna Nekrasova, Kazakhstan	Master's Degree, Магистр	Executive Director, Member of the PMI	Union of Youth of the Republic of	
Students				
Ferrens Yulia -		Doctoral student at	KazNITU	

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Ф КазНИТУ 703-05 Образовательная программа 2

List of Abbreviations and Designations

NAO “Kazakh National Research Technical University named after K.I. Satbayev” – NAO Satbayev University

VC – University Component

EC – Elective Component

LO – Learning Outcomes

EP – Educational Program

SDGs – Sustainable Development Goals

1. Description of the Educational Program

The Educational Program “Project Management in Construction” is aimed at familiarizing students with the main methods of solving industrial and entrepreneurial tasks faced by construction organizations through the management and supervision of processes related to their functioning and development, as well as the organization of production and commercial activities within construction enterprises.

The field of professional activity for graduates of the bachelor’s program includes:

- Production and management activities — managing teams involved in construction and installation works related to the erection, operation, and reconstruction of buildings, structures, engineering systems, and equipment; maintenance and repair of construction machinery, mechanical and electrical equipment, and automation tools; technological lines for the production of construction materials, products, and structures;
- Entrepreneurial and organizational activities — operating in business structures where graduates act as entrepreneurs establishing and developing their own ventures;
- Organizational and technological activities — organizing the work of construction, municipal, manufacturing organizations and enterprises;
- Scientific and pedagogical activities — participating in research projects and conducting scientific and pedagogical activities in educational institutions.

The objects of professional activity for graduates of the bachelor’s program include:

- processes of managing organizations of various legal forms;
- processes of public and private administration;
- scientific research processes.

The scope of professional tasks solved by a specialist of the Educational Program “Project Management in Construction” (bachelor’s degree) includes:

Professional activities:

- calculation of elements of buildings and structures;
- preparation of technical solutions;
- development of technical specifications for construction and reconstruction projects considering ecological and safety requirements;
- selection of composition and technological lines for the production of building materials and structures.

Organizational and managerial activities:

- development of strategies for enterprise development and its structural units;
- management of departments in enterprises and organizations of various forms of ownership, public and municipal authorities;
- organization and leadership of creative teams to solve managerial tasks;

Analytical activities:

• search, analysis, and evaluation of information for the preparation and adoption of managerial decisions;

• analysis of existing forms of organization and management processes, development and justification of proposals for improvement;

• evaluation of project efficiency considering uncertainty factors;

Scientific and research activities:

• defining tasks for teams and individual performers, selecting research tools, analyzing results, collecting, processing, analyzing, and systematizing information on research topics, preparing reviews and reports;

• development of models of processes, phenomena, and objects related to the professional field, evaluation and interpretation of obtained results;

• identification and formulation of relevant scientific problems;

• preparation of reviews, reports, and scientific publications;

Pedagogical activities:

• teaching management disciplines and developing relevant educational and methodological materials in secondary and professional educational institutions, as well as institutions of additional professional education.

2. Purpose and Objectives of the Educational Program

Purpose:

- To train specialists in the field of project management within the construction industry through the use of advanced theoretical and practical achievements in enterprise architecture, calculation, design, assembly, reconstruction, and operation of construction facilities.

• training specialists in construction project management using advanced theoretical and practical advances in enterprise architecture, calculation, design, installation, reconstruction, and operation of construction projects.

• ensuring the training of highly qualified specialists in construction project management (SDG 4 – Quality Education);

• training specialists capable of effectively managing resources and increasing productivity in construction (SDG 8 – Decent Work and Economic Growth);

• promoting the development of innovative approaches and digital technologies in construction (SDG 9 – Industry, Innovation, and Infrastructure).

• training specialists proficient in modern digital technologies and artificial intelligence tools used in construction project management (predictive analytics, planning automation,

optimization of deadlines and resources).

Objectives:

- master concepts, theory, principles, and best practices in Project Management necessary to improve the performance of business operations in construction organizations;
- acquire skills in project management, analysis of business processes in construction organizations, scientific and pedagogical activities, independent research work, expertise, and consulting in the construction industry;
- develop awareness of the state and trends of economic development, fundamentals of scientific and pedagogical activity in the subject area and related fields, modern scientific and innovative achievements in construction project management;
- formulate innovative tasks and apply project management methods for their implementation, evaluate the quality of project management systems, analyze the efficiency of business processes, use software tools for project management tasks, implement research results into practice, conduct pedagogical activities, and develop recommendations on improving efficiency and economic evaluation of project management;
- solve professional tasks related to planning construction projects, designing construction stages, organizing project work, resources, teams, communication processes, and applying methodologies for developing and implementing innovative projects in construction.

3. Requirements for Assessing Learning Outcomes of the Educational Program

Learning outcomes of the bachelor's program are determined by the competencies acquired by graduates, i.e., their ability to apply knowledge, skills, and personal qualities in accordance with professional activity tasks.

Graduates should be able to:

1. Explain the fundamental principles of anti-corruption culture and law, and apply them in real-life situations to maintain ethical standards in professional activities.
2. Analyze basic economic processes and apply entrepreneurial principles to develop and implement business projects.
3. Apply ecological principles and safety methods to minimize the impact of construction projects on the environment.
4. Apply scientific research methods to develop hypotheses and conduct empirical research in construction.
5. Use BIM technologies and other modern design methods to optimize construction processes.
6. Evaluate and select building materials and methods of their use to ensure the quality and

durability of structures.

7. Manage construction projects using modern methods and tools to achieve project goals on time and within budget.

8. Apply business engineering principles and flexible technologies to improve processes and increase project efficiency.

9. Analyze and calculate structures and mechanisms to ensure their reliability and safety.

10. Evaluate and improve the operational efficiency of construction projects using modern methods and tools.

11. Evaluate and manage risks, and develop and apply effective communication skills in construction projects.

12. Apply modern personnel and resource management methods to enhance the efficiency of teams and organizations.

13. Apply knowledge in legal regulation and accounting to ensure the organization's activities comply with legal requirements and financial stability.

14. Develop and implement innovative solutions and artificial intelligence technologies to enhance the competitiveness and efficiency of construction projects.

15. Develop emotional intelligence and personal and professional effectiveness skills for successful team management and personal growth.

4. Passport of the Educational Program

4.1. General Information

№	Название поля	Примечание
1	Code and Classification of the Field of Education:	6B04 Business, Management and Law
2	Code and Classification of Training Directions:	
3	Group of Educational Programs:	
4	Title of the Educational Program:	“Project Management in Construction”
5	Brief Description of the Educational Program:	The program is aimed at familiarizing students with the fundamental methods of solving industrial and entrepreneurial tasks faced by construction organizations through the management and supervision of processes related to their functioning and development, as well as the organization of production and commercial activities within construction enterprises.
6	Objective of the Program:	To train specialists in the field of project management within the construction industry by applying advanced theoretical and practical accomplishments in enterprise

		architecture, calculation, design, installation, reconstruction, and operation of construction facilities.
7	Type of Program: Higher	innovative
8	NQF Level:	6
9	QF-EHEA Level:	6
10	Distinctive Features of the Program:	
11	List of Competencies of the Educational Program	1. Ability to manage organizations, departments, employee groups (teams), projects, and networks. 2. Proficiency in methods of economic and strategic analysis of the behavior of economic agents and markets in a global environment. 3. Ability to apply fundamental laws of natural sciences in professional activities, and use methods of mathematical analysis and mathematical (computer) modeling, as well as theoretical and experimental research. 4. Knowledge of fundamental laws of geometric formation, construction, and intersection of models of plane and space, required for preparing and interpreting drawings of buildings, structures, and components, and for developing design documentation and part specifications. 5. Ability to apply regulatory legal documents in professional activities. 6. Knowledge of regulatory frameworks in engineering surveys, principles of building and structure design, engineering systems and equipment, urban planning and development. 7. Proficiency in methods of conducting engineering surveys, and technologies for designing parts and structures according to technical specifications using universal and specialized computational software systems and computer-aided design (CAD) tools. 8. Ability to participate in the design and survey processes of professional activity facilities. 9. Knowledge of occupational safety, life safety, and environmental protection requirements during construction, installation, repair, and reconstruction works. 10. Knowledge of organizational and legal foundations of managerial and entrepreneurial activities in construction. 11. Ability to generalize and critically evaluate research results on relevant management issues obtained by domestic and foreign researchers. 12. Ability to present research results in the form of a scientific report, article, or presentation, and justify the relevance, theoretical, and practical significance of the selected research topic. 13. Ability to independently conduct research in accordance with the developed research program.
12	Learning Outcomes of the Educational Program	1. Explain the fundamental principles of anti-corruption culture and law, and apply them in real-life

	Graduates will be able to:	situations to maintain ethical standards in professional activities. 2. Analyze basic economic processes and apply entrepreneurial principles to develop and implement business projects. 3. Apply ecological principles and safety methods to minimize the impact of construction projects on the environment. 4. Apply scientific research methods to develop hypotheses and conduct empirical research in construction. 5. Use BIM technologies and other modern design methods to optimize construction processes. 6. Evaluate and select building materials and methods of their use to ensure the quality and durability of structures. 7. Manage construction projects using modern methods and tools to achieve project goals on time and within budget. 8. Apply business engineering principles and flexible technologies to improve processes and increase project efficiency. 9. Analyze and calculate structures and mechanisms to ensure their reliability and safety. 10. Evaluate and improve the operational efficiency of construction projects using modern methods and tools. 11. Evaluate and manage risks, and develop and apply effective communication skills in construction projects. 12. Apply modern personnel and resource management methods to enhance the efficiency of teams and organizations. 13. Apply knowledge in legal regulation and accounting to ensure the organization's activities comply with legal requirements and financial stability. 14. Develop and implement innovative solutions and artificial intelligence technologies to enhance the competitiveness and efficiency of construction projects. 15. Develop emotional intelligence and personal and professional effectiveness skills for successful team management and personal growth.
13	Form of Study:	Full-time
14	Duration of Study:	4 years
15	Total Credits:	240
16	Languages of Instruction:	Kazakh, Russian, English
17	Awarded Academic Degree:	Bachelor of Business and Management
18	Developers and Authors:	Department of Management and Mathematical Economics (MiME) Department of Construction and Structural Materials (SiSM)

4. 2 . Relationship reachability generated results training By educational program And educational disciplines

№	Name of the discipline	Brief description of the discipline	Credits	Generated learning outcomes (codes)														
				PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PO 13	PO 14	PO 15
Cycle of general education disciplines																		
Component of choice																		
1	Fundamentals of anti-corruption culture and law	Purpose: to increase the public and individual legal awareness and legal culture of students, as well as the formation of a knowledge system and a civic position on combating corruption as an antisocial phenomenon. Contents: improvement of socio-economic relations of the Kazakh society, psychological features of corrupt behavior, formation of an anti-corruption culture, legal responsibility for acts of corruption in various fields.	5		+													
2	Fundamentals of scientific research methods	Purpose: To develop basic research skills. Content: Students will learn the essence and role of research, classification, methodology, stages, topic selection, justification of relevance, determination of goals, objectives, object and subject of research, methods, discussion of results, formulation of conclusions, and norms of scientific ethics.	5				+											

3	Basics of Financial Literacy	Purpose: formation of financial literacy of students on the basis of building a direct link between the acquired knowledge and their practical application. Contents: using in practice all kinds of tools in the field of financial management, saving and increasing savings, competent budget planning, obtaining practical skills in calculating, paying taxes and correctly filling out tax reports, analyzing financial information, orienting in financial products to choose adequate investment strategies.	5	+															
4	Fundamentals of economics and entrepreneurship	Purpose: To develop basic knowledge of economic processes and skills in entrepreneurial activities. Content: The course aims to develop skills in analyzing economic concepts such as supply and demand, and market equilibrium. It includes the basics of creating and managing a business, developing business plans, risk assessment, and strategic decision-making.	5	+	+														

5	Ecology and life safety	Purpose: formation of ecological knowledge and consciousness, obtaining theoretical and practical knowledge on modern methods of rational use of natural resources and environmental protection. Contents: the study of the tasks of ecology as a science, the laws of the functioning of natural systems and aspects of environmental safety in working conditions, environmental monitoring and management in the field of its safety, ways to solve environmental problems; life safety in the technosphere, emergencies of a natural and man-made nature.	5			+													
Cycle of basic disciplines																			
University component																			
6	Architecture	Within the framework of this discipline, the fundamentals of the design of buildings and structures are studied, their diversity, key elements, structural systems are examined, and fundamental information about building structures is provided, including methods and principles of their design and strength calculations based on limit states.	5						+										
7	Architectural physics	The purpose of the discipline: formation of knowledge of the basic concepts and laws of architectural climatology, thermal engineering of	5					+											

		architectural lightology, color science, architectural acoustics. Brief description: light environment and its characteristics. Physical fundamentals of photometry. Characteristics of the eye as a visual analyzer. The organic relationship of light and architectural form. Insolation and light protection. Fundamentals of architectural lighting engineering. Light climate. Features of the light climate, questions about the unity and interaction of utilitarian, aesthetic and hygienic functions of light. Designing light architecture taking into account the interaction of light with space, shape, plastic and color.																
8	Business Engineering I	Purpose: To develop skills in designing and optimizing business processes to enhance organizational efficiency and competitiveness. Content: The course covers the main methods and tools of business engineering, such as process modeling, business process analysis and reengineering, change management, and the implementation of information systems. Special attention is given to practical aspects and case studies on improving organizational performance.	5								+							

9	Business Engineering II	Purpose: To deepen knowledge and skills in business engineering for developing comprehensive solutions and improving business processes. Content: The course covers advanced methods and techniques for analyzing and optimizing business processes, designing complex business systems, project management, and IT integration. It includes practical exercises and case studies focused on applying theoretical knowledge to real business scenarios.	5								+							
10	Introduction to Economics: Macroeconomics	Purpose: To provide students with an overview of the major aspects of macroeconomic theory, including the study of national income, inflation, unemployment, monetary policy, and fiscal policy. Content: Examination of the main macroeconomic indicators such as GDP, inflation and unemployment, analyzing the factors affecting economic growth and stability. Examination of macroeconomic policy instruments and their impact on the economy.	5		+													
11	Introduction to Economics: Microeconomics	Purpose: To introduce students to the basic principles of microeconomics by examining the theory of decision making by individuals, firms and markets and	6		+													

		their interactions. Content: study of the laws of supply and demand, consumer choice theory, production and costs of the firm, market competition and monopoly. Analysis of market structures and economic behavior using various models.																
12	Geodesy in construction	The study of this field aims to fully understand the role of geodesy in construction, including such aspects as the shape and size of the Earth, the concepts of geoid and ellipsoid, the variety of coordinate systems and their application on construction sites, and methods of orienting lines on the ground. Student objectives include mastering the use of maps and survey plans, the ability to work with government survey network data, and the application of geometric leveling techniques and various types of topographic surveys to successfully manage construction projects.	5						+									
13	Engineering Mechanics	This discipline examines the behavior of various materials under the influence of mechanical and thermal loads, methods for calculating the strength, stiffness and stability of the most common elements of machines and structures, as well as the	5				+											

		determination of stresses and deformations in parts, taking into account ensuring optimal compliance with the requirements of reliability and efficiency, which is an important part of management construction projects.																
14	Mathematics for economists	urpose: To develop mathematical skills necessary for analyzing and solving economic problems. Content: The course includes the study of mathematical methods and tools such as linear algebra, calculus, and optimization, applicable to economic models and issues. Emphasis is placed on the practical application of mathematics in economics.	5				+											
15	Management	The purpose of the discipline is a comprehensive understanding by students of the management system, the nature and essence of the entire spectrum of management relations as a determining factor in the effectiveness of work at all levels of the organization. Contents: Management - concept, essence, goals, tasks and main functions of management, Main tasks of management, definition, goals, connection with other sciences, Scientific schools of management. Development of management															+	

		science, Management approaches, Organization, Management functions, Communication process in management, Decision making, Conflict management, Manager roles, Leadership, power and personal influence, Leadership, style, situation, Management of organizational culture, Management methods, Human interaction and groups.																
16	Fundamentals of flexible technologies	The purpose of the discipline is the development of skills and practical skills for effective project management, ensuring the achievement of certain results in terms of the composition and scope of work, cost, time, quality and satisfaction of project participants. Contents: Approaches to Agile Project Management, Agile History, Values and Principles, Agile Agile Process Methodology, Agile Frameworks, Roles in Agile, Agile Implementation Practices, Scrum - Agile Management Process, Kanban - a modern tool for organizing processes from an idea to a working product, Implementation changes in the company. Team and Product Management Varieties of Agile Agile Development Methodologies.	4								+							

17	Structural mechanics	The discipline analyzes the stress-strain state of rods and rod systems under the influence of various loads, applies the principles and methods of calculating structures for strength, rigidity and stability, taking into account the economy of materials to ensure the reliability of structures.	5									+						
18	Construction Materials	This course examines materials as constituent elements of the material-structure system that ensure reliable and safe functioning of structures in construction projects. It studies methods for creating materials with the required performance characteristics, including the selection of raw materials, waste disposal, processing and quality control technologies, as well as the use of modern equipment for analyzing and assessing the quality of building materials.	5						+									
19	Theory and practice of project management	Purpose: To develop knowledge and skills in project management for effective project execution in various fields. Content: The course covers fundamental theories and methods of project management, including project planning, organization, control, and completion. Topics include risk management, resource	5							+								

		management, communication, and quality management.																
20	Business performance management	The discipline provides students with tools and methods for analyzing and optimizing business processes in an organization. Students study business modeling, quality management, data analysis for management decisions, change and risk management. The main goal is to provide students with the knowledge and skills necessary to improve business performance, identify and exploit growth potential, and adapt to changing market conditions.	5										+					
21	BIM technologies in construction	The discipline is aimed at teaching students the use of software systems, such as ArchiCAD and Revit, for building information modeling (BIM). These skills play a key role in the process of co-creating and using information about buildings and structures, which in turn forms the basis for making informed decisions at all stages of the life cycle of a construction project, including planning, design, production of detailed documentation, construction, operation and, ultimately dismantling. This discipline also contributes to the coordinated and	5					+										

		efficient work of all project participants, including the investor, the customer, the general designer, the general contractor and the operating organization.																
22	Accounting and audit	Purpose: To provide students with an understanding of accounting and auditing principles for effective financial reporting and auditing. Content: study of accounting fundamentals, including methods of recording transactions, preparing financial statements and analyzing them. Practical experience in bookkeeping using accounting software. Fundamentals of auditing, including conducting examinations and analyzing financial data to confirm its reliability.	5													+		
23	Introduction to Risk-Management	Purpose: To provide students with an understanding of the basic concepts, methods and tools of risk management necessary to assess, manage and mitigate risks in various areas of business. Content: study of the basic concepts of risk and risk management, methods of risk assessment, including quantification of probability and magnitude of losses, analysis of the impact of risks on business processes and financial results. Examination of risk management strategies,	5											+				

		including decision making, insurance, derivatives and other loss protection techniques.																
24	Geotechnics I	This discipline studies soil mechanics and engineering geology to prepare students for professional activities in the field of construction. Within its framework, students learn to evaluate the engineering and geological conditions of construction sites, determine the physical and mechanical properties of foundation soils, calculate foundation settlements and improve the properties of soils and artificial foundations. New normative documents and methods of assessment of grounds harmonized with Eurocodes are also considered.	5			+												
25	Reinforced concrete structures I	The discipline studies the process of calculating compressed, tensile and bending reinforced concrete structures of civil buildings, taking into account the requirements necessary for organizing the management of construction projects, including taking into account the structural features of buildings, calculations for the formation, opening of cracks, strength and crack resistance.	5									+						
26	Communication skills	The course is designed to raise the students' language competence to	4											+				

		required standards of academics and future professional needs in the business world. The course is focused on developing advanced writing, and speaking skills integrated with Business English content. The students will also work as a team on a semester project which will aim to simulate a business environment. The project may include creating and running a mock company or a business case study.																
27	Design and calculation of structural elements	This discipline covers modern theoretical and practical aspects of the calculation of structures made of reinforced concrete, steel and wood, including methods for determining internal loads, analysis of the strength and durability of reinforced concrete structures. It also includes information on the physical and mechanical properties of building materials, connections of elements of metal and wooden structures, as well as their calculation, which is important in the context of project management in construction.	5					+										
28	Metal structures I	This discipline covers the calculation and design of metal structures of civil buildings, including the study of the properties of metals that affect their strength	5									+						

		and rigidity, as well as methods for calculating beams, beam structures, centrally compressed columns and methods of connecting metal structures, which is directly related to project management in construction and ensuring their quality.																
29	Fundamentals of Artificial Intelligence	Purpose: to familiarize students with the basic concepts, methods and technologies in the field of artificial intelligence: machine learning, computer vision, natural language processing, etc. Contents: general definition of artificial intelligence, intelligent agents, information retrieval and state space exploration, logical agents, architecture of artificial intelligence systems, expert systems, observational learning, statistical learning methods, probabilistic processing of linguistic information, semantic models, natural language processing systems.	5														+	
30	Fundamentals of sustainable development and ESG projects in Kazakhstan	Purpose: the goal is for students to master the theoretical foundations and practical skills in the field of sustainable development and ESG, as well as to develop an understanding of the role of these aspects in the modern economic and social development of Kazakhstan.	5				+											

		Contents: introduces the principles of sustainable development and the implementation of ESG practices in Kazakhstan, includes the study of national and international standards, analysis of successful ESG projects and strategies for their implementation in enterprises and organizations.																
31	Legal regulation of intellectual property	Purpose: the goal is to form a holistic understanding of the system of legal regulation of intellectual property, including basic principles, mechanisms for protecting intellectual property rights and features of their implementation. Content: The discipline covers the basics of IP law, including copyright, patents, trademarks, and industrial designs. Students learn how to protect and manage intellectual property rights, and consider legal disputes and methods for resolving them.	5														+		
32	ESG principles in inclusive culture	Purpose of the course: It focuses on studying ESG (Environmental, Social, Governance) principles and their interaction with the creation of an inclusive culture within an organization. Content: Students will gain knowledge on how implementing ESG principles contributes to corporate social	5			+													

		responsibility, sustainable development, and equal opportunities for all employees, including those who may face various forms of discrimination. The course will help students understand the importance of an inclusive culture in achieving long-term business goals and ensuring sustainable organizational development.																
33	Construction production technology I	The discipline course provides an extensive study of the fundamentals of construction production, including advanced techniques for performing construction processes. It also covers aspects of the development of documentation on the organization and technology of construction, which plays an important role in the management of construction projects.	5	+														
34	Communications management	The Communication Management discipline focuses on the strategic and tactical management of information flow in an organization. Students learn how to create effective communication strategies, plan and coordinate internal and external communications, and reputation management. The course includes media analysis, public response and crisis communication	4											+				

		management. The goal is to develop students' skills in managing communications in a modern organization, creating a positive brand perception and ensuring effective interaction with clients and stakeholders.																
35	Personnel Management	Purpose: To provide students with the knowledge and skills necessary for effective human resource management, including an understanding of the basic principles, techniques and strategies of human resource management. Content: study of the basics of human resource management, including recruitment, assessment, training and development of employees, motivation, conflict management and team communication. Examination of modern approaches to human resource management, including flexible work organization methods and retention strategies.	5												+			
36	Resource management	The discipline "Resource Management" is focused on mastering the principles of effective distribution and management of resources in an organization. Students study methods of budgeting, optimizing the use of material and financial resources,	5												+			

		project management and strategic planning. The purpose of studying this discipline is to prepare students for the roles of managers capable of effectively managing the organization's resources, ensuring the achievement of strategic goals and optimization of business processes.																
37	Management Accounting	The course is aimed at the formation of accounting information for the purposes of information support of logistics, innovation, strategic, environmental and operational management. The course forms knowledge about the theory of action in conditions of uncertainty and risk, about quality management, the time factor and the theory of limitation, management accounting for innovation, strategic accounting and its impact on management accounting.	5														+		
38	Emotional intelligence	Purpose: To develop in students an understanding and ability to manage the emotions of themselves and others, to improve the skills of emotional perception, expression and management in personal and professional life. Content: Fundamentals of emotional intelligence, self-awareness and self-regulation, empathy and social	5																+

		skills, relationship and conflict management, application of emotional intelligence in leadership and teamwork.																	
Cycle of Basic Disciplines																			
Elective Component																			
39	Project management tools and methods	The purpose of studying the discipline is the practical development of modern universal project management tools, in the study of its capabilities and limitations, methods of adapting this tool to the needs of the content and environment of a particular project, industry or field of application. The main objective of the course is to study and practice the basic methods and tools of project management, allowing them to conceptualize the goals and results of the project. Contents: Approaches, methods and standards in project management, Classical project management, Agile, Scrum, PRINCE2, Tools to facilitate project management (Bitrix, Trello, Basecamp, Asana, Wrike, Genius Project, MS Project).	5							+									
40	Marketing	The purpose of studying the discipline "Marketing" is to form students' initial knowledge of marketing, ideas about its importance and necessity, as well as to give future specialists both the	6		+														

		theory and practice of marketing, and specific areas and technologies of marketing activities in industries that produce goods and services. Contents: The concept and essence of marketing, its goals, principles and functions, Market segmentation, its role in marketing, Commodity policy formation, Pricing policy, Sales and distribution, Marketing communications, Marketing research.																
41	Project Management Software Applications	The purpose of mastering the discipline is to acquire knowledge and practical experience in the field of project management using modern software applications. As a result of mastering the discipline, the student must know the processes and principles of project management, be able and possess the skills to develop project plans in an automated project management environment. Contents: Project Management Software Implementation Types, Project Management Software Features, Implementing the Right Project Management Software, Project Management Systems (GanttPRO, Bitrix 24, Wrike, Asana, Active Collab, Basecamp, Trello, Hygger, Smartsheet, Monday , MS Project,	6							+								

		Hive, A2B, Plan.io, Jira, Zoho Projects, Celoxis).																
42	Automation of the release of estimates in construction	The purpose of this discipline is to master the skills of developing estimate documentation using the resource method, observing pricing standards in the construction of the Republic of Kazakhstan. This includes determining the cost of direct costs, overhead, estimated profit, and additional costs associated with managing the construction project. Students will also learn to prepare various types of cost estimates, including local and site estimates, summary estimates, resource and equipment statements, and documents related to estimating and accounting for transportation costs.	5					+										
43	Introduction to change management	Objective: to master students the basic concepts and methods of change management in organizations to successfully adapt to the changing environment and achieve strategic goals. Content: study of causes and types of change in organizations, basic approaches and models of change management. Developing strategies for implementing change, including communication, employee	5							+								

		involvement and managing resistance to change.																
44	Geotechnics II	The purpose of teaching this discipline is to introduce future specialists to modern methods of calculation, design and construction of foundations and underground structures, including various types of foundations, their classification, calculation and design. Particular attention is paid to managing the process of designing foundations on various types of soils, such as loess, subsidence, silty clay and swelling soils.	5		+													
45	Business-process design	The objectives of mastering the discipline are: systematization and deepening of existing knowledge on general management, process management, the relationship of the strategic management system and process management; study of the conceptual foundations of the process approach as a modern tool for managing companies; mastering the tools and methods of modeling, analysis and optimization of the company's business processes; study of strategies and tactics for managing organizational changes in a company during reengineering and updating business processes.	5										+					

46	Reinforced concrete structures II	This discipline reflects the current state of the issue of design and calculation, reinforced concrete structures. The study of the discipline provides knowledge in the development of structural systems of buildings and structures, the determination of internal forces, the calculation of the strength and deformability of reinforced concrete structures of prefabricated one- and multi-storey civil industrial buildings.	5									+						
47	Quality control of construction and installation works	The discipline studies the fundamentals and methods of ensuring the quality of construction with an emphasis on quality management of construction work, the goal of which is to obtain high-quality final products. In this discipline, students learn to organize quality control systems that meet international standards, which is essential for the effective management of construction projects.	5									+						
48	Metal constructions 2	This discipline allows you to master the practical use of the developed structural systems of buildings and structures, to carry out the calculation and design of their elements using regulatory, instructive and technical literature.	5									+						

		Basic knowledge and skills in the field of calculation and design of single-span industrial metal buildings and structures, as well as methods for practical calculation of structures in terms of strength, deformability, selection and calculation of joints of metal structures will be presented.																
49	Mechanization of construction processes	The purpose of this discipline is to train highly qualified specialists with the necessary knowledge about the technical characteristics and technological capabilities of means of mechanization of construction processes, with the aim of their most effective use in the conditions of construction production and their management.	5									+						
50	Operational efficiency	Purpose: To develop knowledge and skills for enhancing operational efficiency and optimizing business processes. Content: The course covers methods for analyzing and improving operational processes, performance management, resource optimization, and the implementation of advanced technologies and quality standards.	5										+					
51	Construction production	The discipline course is aimed at studying the fundamentals of technological design in construction, including methods for	5					+										

	technology II	calculating sections of technological maps for construction processes, methods of performing construction operations with an emphasis on quality and safety management, as well as the principles of industrialization, mechanization, automation and improving the efficiency of construction production.																
52	Managing business structures	Purpose: To provide students with knowledge and skills to manage various aspects of business structures to ensure their effective functioning and achieve the strategic goals of the organization. Content: Analysis of types of business structures, strategic planning and resource management, organization of business processes, leadership and personnel management, financial management, marketing and sales, risk management and control.	5												+			
53	Knowledge management	The discipline aims to develop students' ideas about knowledge management as a modern approach in management, the possibilities and ways of using it to solve the strategic and tactical tasks of an organization in order to increase its competitiveness; skills necessary for the practical solution of knowledge	5												+			

		management problems in the organization. Contents: Interpretation of the role of knowledge in terms of various theories of the firm, A practical study of the impact of the maturity of knowledge management processes, Knowledge management infrastructure, Knowledge management processes, Determining the strategic role of knowledge, key competencies, technical careers, the institution of knowledge managers, From knowledge management to competency management.																
54	Management and organization of construction production	The purpose of the discipline is to teach students the basics of construction management, including design of construction organization, preparation for construction, analysis of the flow organization of construction, scheduling, as well as the development of an object construction plan and construction quality control methods, which are important for the effective management of construction projects.	5											+				
55	Personal and professional	Purpose: To provide students with the skills and tools to effectively manage time, tasks, goals and	5															+

	performance management	development strategies in both their personal and professional lives. Content: learning techniques for time planning, prioritizing tasks, setting and achieving goals, as well as strategies for self-motivation and stress management.																
56	Management of the content and timing of construction projects	The purpose of studying the discipline "Management of the content and timing of construction projects" is to form the foundations of students' professional competencies in collecting project requirements from stakeholders, in managing the content and timing of projects. The content of the discipline is the collection of requirements, the definition of content, the construction of a WBS project, the management of project deadlines, the construction of a network graph and a Gantt chart.	5							+								
57	Lean management	Purpose: To study the principles and methods of Lean management to enhance efficiency and eliminate waste in business processes. Content: The course covers the basics of Lean management, including lean production principles, identifying and eliminating waste, process improvement, and implementing a continuous improvement system. It	5														+	

		includes practical assignments and case studies on applying Lean methods in practice.																	