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Chairman of the EMC, Vice-Rector of AEA.

Mustafina A.K.

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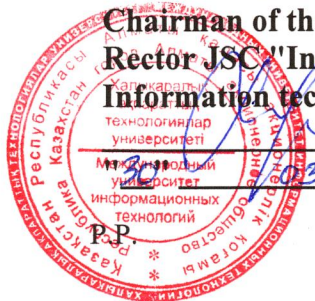
APPROVED

Chairman of the Board

Rector JSC "International University  
Information technologies"

Khikmetov A.K.

2023



**EDUCATIONAL PROGRAM**  
**6B041 03 – «Innovation Management»**  
(code and name of the educational program)

Code and classification of the field of education: 6B04-Business, management and law

Code and classification of training program: 6B041 Business and management

Group of educational programs: B044 Management and administration

Levels of qualifications for ISCED: 6

Levels of qualifications for NQF: 6

Levels of qualifications for SQF: 6

Duration: 4 years

Number of credits: 240 ECTS

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*Daniyarov*  
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*Mudagayev*  
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Almaty, 2023

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## LIST OF ABBREVIATIONS AND DESIGNATIONS

HE	Higher education
SCES	State compulsory education standard
EQF	European qualification framework
KAS	Knowledge and skills
NCO	National Classification of Occupations
NQF	National Qualifications Framework
NSQ	National System of Qualification
GEM	General Educational Module
EP	Educational program
BM	Basic module
BC	Basic competency
SFQ	Sectoral framework of qualifications
PS	Professional standard
PE	Postgraduate education
GC	General competency
PC	Professional competency
PM	Professional module
RK	Kazakhstan Republic
LO	Learning outcomes
QMS	Quality Management System

## 1. DESCRIPTION OF THE EDUCATIONAL PROGRAM

This educational program "Innovation Management" is developed on the basis of the basic regulatory documents that determine the content of training in the specialty 5B050700 - Management:

- The state compulsory standard of technical and vocational education, approved by the Government of the Republic of Kazakhstan dated August 23, 2012 No. 1080 (as amended on August 15, 2017). The state obligatory standard as amended by the decree of the Government of the Republic of Kazakhstan dated May 13, 2016 No. 292.

- National Qualifications Framework. Approved by the protocol of March 16, 2016 by the Republican tripartite commission on social partnership and regulation of social and labor relations.

- Industry Qualifications Framework (OCR). Approved by Protocol No. 1 of December 20, 2016 of the Industry Commission for Social Partnership and the Regulation of Social and Labor Relations in the Field of Information and Communication Technologies.

- The Law of the Republic of Kazakhstan "On Education" dated July 27, 2007 No. 319- III 3PK.

- Rules for the organization of the educational process on credit training technology, approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated 04.20.2011 Number 152.

The program is designed to implement the principles of the democratic nature of educational management, expanding the boundaries of academic freedom and the authority of educational institutions, which will ensure the training of elite, highly motivated personnel for innovative and knowledge-intensive industries.

The educational program ensures the application of an individual approach to students, provides the transformation of professional competencies from professional standards and qualification standards into learning outcomes. Student-centered learning is provided - the principle of education, which implies a shift in emphasis in the educational process from teaching (as the main role of the teaching staff in the "translation" of knowledge) to learning (as the active educational activity of the student).

On the basis of this OP, the educational organization develops working curricula and programs using appropriate methodological recommendations for working teaching documentation.

The educational program "Innovation Management" is dedicated to teaching students the theory and practice of managing innovative processes and solutions. Key aspects are new product development, strategic marketing, sales and after-sales service management, business intelligence, open innovation and entrepreneurship. The object of research is a new process of product development and business. This includes processes for collaborating with and sharing knowledge with various stakeholder groups.

Innovation Manager is a specialist who defines innovative solutions for implementing a business strategy and creates business requirements for the development of new products, advises and instructs projects, accompanies the launch of a product and monitors its quality, analyzes the market, promotes the product and manages consumer expectations, provides them satisfaction, calculates the effectiveness of investments and conducts financial analysis, presents the product at various venues (exhibitions), and also promotes a cooperative innovative culture in the company.

The educational program "Innovation Management" allows you to train specialists at the intersection of management, information technology, economics, marketing and finance.

The educational program "Innovation Management" was developed on the basis of the analysis of the labor functions of specialists in the field of innovation management. Developed by the OP "Innovation Management" meets the requirements of interested parties (students, employers, university, state) and external qualification requirements.

## 2. GOALS AND OBJECTIVES OF THE EDUCATIONAL PROGRAM

The goal of the “Innovation Management” educational program is to train qualified competitive specialists in the field of innovative management, organization development and innovation process management, and also innovative product management.

The objectives of the educational program:

1. To form a student’s general competencies, including the ability to self-realization, self-development, communication, bear social and ethical responsibility for decisions made, etc.
2. Form the basic competencies of the student, including the ability to conduct marketing research, conduct economic analysis and performance evaluation, plan and budget, etc.
3. To form professional competencies in the student, including the ability to develop a plan and program for organizing work on product development, choose a technology for research, develop business requirements, select (develop) a technology for the implementation (commercialization) of an innovative product.

## 3. PASSPORT OF THE EDUCATIONAL PROGRAM "INNOVATION MANAGEMENT"

### 3.1. General information.

N.	Field name	Note
1	Code and classification of the field of education	6B04 Business, management and law
2	Code and classification of training areas	6B041 Business and Management
3	Group of educational programs	B044 Management and administration
4	Name of educational program	Innovation management

5	Brief description of the educational program	The educational program "Innovation Management" is dedicated to teaching students the theory and practice of managing innovative processes and solutions.
6	The purpose of the OP	training qualified competitive specialists in the field of innovation management, organization development and innovation process management, as well as innovation product management
7	ISCED level	6
8	NQF level	6
9	ORC level	6
10	<p>The list of competencies of the educational program:</p> <p>OK 1 ability to document work and work results</p> <p>OK 2 readiness for self-development, self-realization, use of creative potential</p> <p>OK 3 readiness for communication in oral and written forms in the state, Russian and English languages for solving problems of professional activity</p> <p>OK 4 willingness to lead the team in the field of their professional activities, tolerantly perceiving social, ethnic, religious and cultural differences</p> <p>OK 5 the ability to present (publish) the result of scientific research at a conference or in a printed publication, including in a foreign language</p> <p>OK 6 readiness to act in non-standard situations, bear social and ethical responsibility for decisions made</p> <p>BC 1 the ability to draw up a budget for the creation and launch of high-tech products, monitor its implementation and adjust it</p> <p>BC 2 the ability to conduct marketing research in the market of high-tech products</p> <p>BC 3 the ability to abstract thinking and the use of analytical and statistical tools to obtain conclusions about the state of the market and its trends</p> <p>BC 4 the ability to assess the economic potential of innovation, the costs of a research project</p> <p>BC 5 the ability to carry out financial, economic calculations, conduct financial analysis and interpret the results</p> <p>BC 6 ability to perform analysis of research results using appropriate processing methods and tools</p>	

	<p>PC 1 The ability to find (select) optimal solutions when creating new high-tech products, taking into account the requirements of quality, cost, deadlines, competitiveness and environmental safety</p> <p>PC 2 Understanding the architecture of information systems</p> <p>PC 3 the ability to apply theories and methods of theoretical and applied innovative management, management systems and strategies, quality management of innovative projects</p> <p>PC 4 with the ability to organize the work of the creative team to achieve the set scientific goal, find and make management decisions, evaluate the quality and effectiveness of labor, costs and results of the scientific and production team</p> <p>PC 5 the ability to solve professional problems based on the history and philosophy of innovation, mathematical methods and models for innovation management, computer technology in the innovation field</p> <p>PC 6 the ability to select (or develop) the technology for the implementation of a scientific experiment (research), to assess costs and organize its implementation</p> <p>PC 7 ability to develop a plan and program for the organization of work on product development</p> <p>PC 8 the ability to carry out a feasibility study of innovative projects and programs</p> <p>PC 9 the ability to critically analyze current problems of innovative management, to set goals and develop a research program, choose the appropriate methods for solving experimental and theoretical problems, interpret, present and apply the results</p> <p>PC 10 the ability to select (develop) technology for the implementation (commercialization) of the results of scientific research (development)</p>
11	<p>Learning outcomes of the educational program:</p> <p>P 1 Able to independently analyze processes and phenomena occurring in modern society; correctly and argumentatively formulate your thoughts in oral and written form; use acquired knowledge in concrete situations; knows alternative, new and/or innovative approaches to solving professional tasks</p>

P 2 Able to predict the course of innovative processes; develop and manage innovative programs and projects; carry out an assessment of the effectiveness of investment in innovation; knows the main methodological approaches, methods and models of management of innovative processes; technology of scientific and technical forecasting; methodical assessment of scientific and technical level and economic efficiency of innovative projects

P 3 Ability to correctly determine the essence and content of management processes; analyze the internal and external environment of the management facility, develop communication skills, conflict resolution skills, organize interactions between the structural divisions of the enterprise.

P 4 Understands the theoretical foundations of entrepreneurship, has the skills to develop strategies and tactics of the enterprise, draw up the business plan of the enterprise, plan and distribute the resources of the enterprise, and form the results of business activities.

P 5 Able to analyze and make proposals for the formation and improvement of the marketing service; substantiate proposals for the formation of product, price, sales and communication policies of innovative companies; He has the skills to carry out marketing research in the market of high-tech goods and their promotion

P 6 Knows the theoretical foundations of information technologies, has skills in developing software, websites, is able to correctly formulate technical tasks (TS) and has the skills of a project approach to management.

P 8 Speaks Kazakh/Russian and a foreign language at a level that allows to carry out basic types of speech activity; oral and written communication in various ways; Adequate reaction skills in everyday, academic and professional communication situations.

R 9 Knows the methods of financial management for assessing assets, making investment decisions, financing decisions, methods of analysis and reducing the degree of financial risks; tools for evaluating the efficiency of investment projects; skills in the formation of financial plans

P 10 Able to analyze and estimate the economic parameters of the society's functioning; use the economic potential of economic subjects of various forms of ownership; possesses the skills of forming a rational organization of labor processes, production and enterprise management; methods and rules of rational use of resources; Methodological determination of economic costs and results of enterprise activity

12	Form of training	full-time
13	Learning languages	English
14	Number of credits	240 ECTS



15	Awarded Degree	Academic	bachelor
16	Developer (s) and authors:		1. Ananyev Timur Vladmirovich, senior-lecturer, MBA, IITU

### 3.2. Matrix of correlation of learning outcomes of an educational program with formed competencies

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
CC 1		+								
CC 2	+									
CC 3		+								
CC 4	+									
CC 5		+								
BC 1	+									
BC 2			+							
BC 3				+						
BC 4				+	+					
BC 5			+			+				
BC 6			+			+				
BC 7					+					
BC 8								+	+	
BC 9								+		
BC 10							+		+	
PC 1							+			
PC 2								+		
PC 3								+		
PC 4							+	+		
PC 5									+	
PC 6									+	
PC 7										+

### 3.3. Information about disciplines (if there are modules, you need to select them)

No.	Name of module / discipline	Discipline Summary	Number of loans	Formed competencies (codes)	Prerequisites	Post requisites
		(30-50 words)				
The cycle of general education disciplines (OOD)						
University component / Optional component						

1.	Economic theory	The course provides an overview of the principles and patterns of her economic relations	4	БК1, БК5		5,6,34
<b>Cycle of General Education Disciplines (OOD)</b>						
<b>Required component</b>						
	History of Kazakhstan.	This course consists of teaching the modern history of the country to understand the role and significance of events in the historical context.	5	GC1		
	Philosophy	This course consists of teaching philosophy to build a conscious attitude towards the environment.	5	GC1, GC2		
	Foreign language	This course consists of teaching a foreign language for the formation of communication skills in a foreign language.	10	GC3, GC4		
	Kazakh (Russian) language	This course consists of teaching the Kazakh / Russian language to form communication skills in the state, Russian languages.	10	GC3, GC4		

	Information and Communication Technologies (ICT)	The course provides an overview in various areas of ICT, allowing students to gain basic knowledge of the use of modern ICT in their scientific and practical work, for independent study and other purposes.	5	PC2		
	Political Science	This course consists of teaching political science to understand political systems, types of political regimes, forms of government, the activities of political parties and public organizations, the state of political consciousness and political culture, patterns of political behavior, problems of the effectiveness and legitimacy of political leadership.	2	GC1		
	Culturology	The discipline includes Religious Studies and Culturology which allow you to deeply understand the processes taking place in the surrounding reality.	2	GC1, GC4		
	Psychology	The discipline includes such sections as an introduction to the subject and tasks of psychology, research methods in psychology, cognitive mental processes, consciousness and self-awareness, emotional and volitional processes, personality, mental makeup of the personality, personality and interpersonal communication.	2	GC2, GC3, GC4		
	Sociology	This course consists of teaching sociology to	2	GC1, GC4		

		understand society and social development.				
	Physical culture	The course is devoted to the development and improvement of physical qualities, motor skills and abilities of students to ensure psychophysical readiness for future professional activity and the use of physical culture in the process of organizing active leisure time and improving the quality of life.	8	GC4		
<b>The cycle of basic disciplines (DB)</b>						
<b>University component / Optional component</b>						
2.	Math 1	Mastering the mathematical apparatus that accompanies the process of modeling, analysis and solving problems in the field of information technology. Helping students to master mathematical methods that enable them to study and predict processes and phenomena from the field of future activities of students as specialists. The formation of skills and independent analysis of research into information technology problems, the development of the desire for a scientific search for ways to improve their work.	5	БК3, БК6		15
3.	Business Technology	The course is devoted to the formation of fundamental theoretical knowledge in the field of accounting and auditing .	5	БК4, БК5		12,13, 23

4.	Corporate Finance	The course introduces methods of financial management for asset valuation, investment decision making, financing decisions .	5	БК4, БК5	8,11	
5.	Macroeconomics	The course provides an overview of the principles and patterns of her macroeconomics.	5	БК1, БК5	3	33
6.	Marketing	The course focuses on знакомлени th students with the theoretical basics and modern methods of marketing activity of the enterprises .	4	БК2, БК3	2	17,24
7.	Microeconomics	The course provides an overview of the principles and patterns of her microeconomics.	5	БК1, БК5	3	33
8.	Business law	In the course of business law, the legal foundations of business activity are studied in the conditions of the modern development of the market economy of the republic, the theory and practice of applying the rules of business law, as well as the protection of the rights and interests of entrepreneurs.	3	OK1		16-18,22

9.	Professionally-oriented foreign language	The skills of written and oral communication in the language of inter-ethnic communication are taught.	5	OK3,OK4	2	
10.	Professionally-oriented foreign language	The skills of written and oral communication in the language of inter-ethnic communication are taught.	5	OK4 OK3,	2	
11.	Statistics	The course gives an overview of BASIC 's law s probabilistic and statistical approach to solving management problems .	5	БК3, БК6		19,20, 22
12.	Finance	The course is devoted to describing the functioning of corporate finance and the development of e practical skills of their organization .	5	БК4, БК5		13
13.	Managerial Accounting	The course is devoted to building a management accounting model designed for decision making	5	БК4, БК5		13
16.	Quantitative methods in business	The course describes how to use the quantitative analysis of information to make management decisions.	5	БК6	26,7	

17.	Research methodology	<p>The study of the problems of the organization of scientific research, including the typology of methodology, methods and conduct of research work, processing of research results.</p> <p>The study of the basics of methodology and methods of scientific research, including the stages of research, including the choice of research direction, the formulation of scientific and technical problems, conducting theoretical and experimental research, recommendations for the design of the results of scientific work,</p>	4	БК6	26,7	
20.	Math 2	<p>The development of mathematical tools for modeling related processes, analysis and problem solving, the development of mathematical methods, providing the opportunity to study and predict processes, phenomena from the field of future activities of students as a specialist.</p>	5	БК3, БК6	4	

21.	International Business	The purpose of the discipline is to provide students with theoretical knowledge about the globalization process of the world economy, to reveal the theoretical and methodological foundations of strategic development in a globalizing world, to trace the orientation of the transformation of world economy subjects and the exit of Kazakhstani firms and banking structures to new frontiers of global interaction, to the development of international entrepreneurship and cooperation on The basis of the theory and practice of international marketing and international management	5	IIK10	10	
	Educational practice	Training practice is carried out with the aim of acquiring students the skills of professional work, deepening and consolidating the knowledge and competencies in financial management.	3			
	Tax and taxation	This course provides an introduction to the principles and concepts of taxes and taxation. It explores the history of tax system to help gain an understanding of current drivers of enterprise system, as well as the development and impact of international standards. This course also explores the distinctive features of taxes and their	5	BC6		



		functions; classification of taxes, definition of direct and indirect taxes, composition and structure of taxes.			
	Insurance	This course provides students with fundamentals of risk management and insurance(RMI) such as the nature and treatment of pure loss exposures, legal principles, property and liability insurance, life and health insurance, and social insurance. Students will study a conceptual framework for making RMI decisions to increase business value and individual welfare while emphasizing traditional types of RMI. Students will also study a conceptual framework for understanding insurance contracts and institutional features of the insurance industry, including their relationship to contracts applied to manage other types of risks.	5	BC3 BC6	
	1 C Accounting	The course is intended for developers having limited experience using 1C: Enterprise. "1C:Professional" will give you all the basics and will allow you to lay a solid foundation for future expertise. After taking the course, you will be able to build your 1C: Enterprise-based business applications, analyze and tune third-party apps and move on with 1C: Enterprise in-depth studying.	5	PC2 PC6	

	Minor 1	Additional educational program (Minor) (minor) - a set of disciplines and (or) modules and other types of educational work, determined by students for study in order to form additional competencies.	5	PC2 PC6 BC2		
	Minor 2	Additional educational program (Minor) (minor) - a set of disciplines and (or) modules and other types of educational work, determined by students for study in order to form additional competencies.	5	PC2 BC2		
	Minor 3	Additional educational program (Minor) (minor) - a set of disciplines and (or) modules and other types of educational work, determined by students for study in order to form additional competencies.	5	PC2 BC2		
	Internship	The assignment entrusted to the department, such as analysis of the financial condition of the enterprise, application of project management methods, conduct a survey, etc.	4			
	Internship	The assignment entrusted to the department, such as analysis of the financial condition of the enterprise, application of project management methods, conduct a survey, etc.	4			
<b>The cycle of core disciplines (PD)</b> <b>University component / Optional component</b>						

22.	Organizational Behavior and Leadership	<b>University component / Optional component</b>	5	ПК4	26	
24.	Project management	This course provides students with a comprehensive overview of the principles, processes, and practices of managing software projects.	6	ПК5,ПК7	26	21,32
26.	Digital marketing and brand management	This course provides a thorough understanding of the principles and practices associated with using the Internet for marketing products and services. It aims to explore the concept of “listening” and related tools, such as Google Alerts , and search engine optimization (SEO) using Google AdWords data .	5	БК2, БК3	9	

27.	Prediploma practice	Practice expands the professional skills and experience of professional activity in, and also contributes to the collection and systematization of materials for writing a diploma project.	5			
30.	Startups and Entrepreneurship	The course is designed to familiarize students with the basic steps necessary to launch and actually launch a business of their choice .	5	ПК10	10	
31.	Innovation management	The course is devoted to study the Yu methodological foundations of innovative processes, the mechanism of their appearance in the scenarios of economic development, evaluation methods of economic, social, scientific and technical efficiency of innovative projects	5	ПК1, ПК9	26	
32.	Management	The course consists of organizational elements of research of the management process , communication and decision-making, management functions such as planning, organization, coordination and control, team work and leadership, as well as the study of various functional departments in the organization such as production, marketing, finance, management the staff.	5	ПК4		16-18,22, 27-29, 35- 37

33.	NIS and the Economics of Intellectual Property	The course focuses on generating and development of the students of professional competence in the field of innovation and management of innovation projects	5	ПК8	16
34.	Management psychology	Management Psychology - a section of psychology that studies the psychological laws of managerial activity. The main task of management psychology is to analyze the psychological conditions and characteristics of management activities in order to increase the efficiency and quality of work in the management system.	5	ПК7	26
35.	Risk management	The course describes the basic methods of identification, assessment, analysis and risk management of the organization.	3	ПК3	26, 7
36.	Strategic management	This course introduces the concept of strategic management through case analysis and examines the organization's main focus and goals, the environment (social, political, technological, economic and global factors), industry and market structure, and the organization's strengths and weaknesses.	5	ПК5,ПК7	26

37.	Knowledge Management and Information Systems	This course focuses on how knowledge is created, captured, presented, stored and reused in order to fully utilize the firm's intellectual assets. Tools and methods for acquiring knowledge, assessment, management, organization and dissemination apply to business situations.	5	ПК1, ПК4, ПК2	ИКТ, 26	
38.	Change management	The course aims to create a common understanding by the student of the field of change, explaining the various frameworks and ways of approaching change at the individual, team and organizational levels.	5	ПК1, ПК4	26	
<b>Additional types of training (DVO)</b>						
<b>Optional component</b>						
	<b>Discipline of choice -</b>					
39.	<b>Additional educational programs</b>					

## 3.4. List of modules and learning outcomes

Name of educational program: 6B041603 - Innovation Management

Qualification: Bachelor of Business and Management

Module Code / Module Name	The complexity of the module in credits	Module-forming disciplines Code / Name	Learning outcomes	Criteria for assessing learning outcomes
Social Disciplines Module	29	Modern History of Kazakhstan	P1	Essay writing (focused on the presentation and development of argumentation, reflective assessment); Critical analysis of the situation; A critical assessment of the literature studied; Presentation preparation (fixing the problem and ways to solve it)
		Philosophy		
		Political science		
		Sociology		
		Psychology		
		Cultural studies		
		Business law		
Physical culture				
Language module	25	Kazakh (Russian ) language	P2	Participation in group work; Participation in discussions (debates, negotiations); Participation in role-playing games; Preparation of a written presentation (essay, report, reflective diary, etc.); Participation in a public presentation with a video of what is happening; Observation or demonstration of real professional skills.
		Foreign language		
		Professionally-oriented foreign language		
IT Module		Information and communication technologies	P3	Problem solving; Analysis of the situation / case; Scripting problems; Situation modeling; Group work (collective discussion of the selected problem and the search for its solution).
		Information systems		
		Big data		

	30	Java			
		UX/UI design			
		Introduction to SAP			
Economics module	20	Microeconomics	P4, P5		Exam (oral, written); Essay writing (focused on reproduction of information); Test execution \ mini-tests; Quizzes; Cases; Video analyzes Presentation preparation.
		Macroeconomics			
		Economic theory			
		Quantitative methods in business			
Marketing module	9	Marketing	P10		Group work (collective discussion of the selected problem and the search for its solution); conducting surveys and interviews, preparing the project; Performing tests \ mini-tests.
		Digital marketing and brand management			
Innovation module	20	Knowledge and Information Systems Management	P7, P8, P10		Case meters; Analysis and evaluation of startups ; Scripting problems; Situation modeling; Group work (collective discussion of the selected problem and the search for its solution ); Discussion and reflection of problems; Preparation of a draft research application on a real problem. Implementation of innovative projects
		Innovation management			
		Business startup and simulation			
		NIS and the Economics of Intellectual Property			
		Change management			



Management module	41	<p>Management</p> <p>Project management</p> <p>Organizational Behavior and Leadership</p> <p>IT project management</p> <p>Strategic management</p> <p>Management psychology</p> <p>International Business</p> <p>Strategic Management</p> <p>Startup and Entrepreneurship</p> <p>State and local governance</p>	P9, P8	<p>Participation in a role-playing game; Presentation preparation · Exam (oral, written); Essay writing (focused on reproduction of information); Filling out multivariate questionnaires; Test execution \ mini-tests; Quizzes; Participation in group projects; Design and implementation of the project.</p>
Prediploma practice and diploma defense module	17	<p>Writing and defending a diploma thesis, diploma project or preparation and passing of a comprehensive exam</p> <p>Research Methodology</p> <p>Prediploma practice</p> <p>Finance</p>	P10	<p>Preparation of a report on laboratory work; Demonstration of experience / experiment; Use of software; Preparation of practical tasks; Participation in group projects; Design and implementation of the project; Database creation; Website Design.</p>
			P6	Solutions to financial problems; A written exam; cases.

Finance module	15	Financial markets and intermediaries	
		Corporate Finance	



## 5. LIST OF ADDITIONAL EDUCATIONAL PROGRAMS (MINORS)

Name of additional educational program ( Minor )	List of disciplines forming Minor	Total number of loans	Semesters of study	Minor Development Documents
Innovation Management	Knowledge Management and Information Systems	5	4-7	Transcript
	Change Management	5	4-7	Transcript
	Innovation Management	5	4-7	Transcript

## 6. REQUIREMENTS FOR EVALUATING EDUCATIONAL PROGRAM TRAINING RESULTS

Grading policy is based on the principles of objectivity, transparency, flexibility and high differentiation.

Monitoring and evaluation of learning outcomes OP students at the ATU is carried out on the score -reytingovoy system (BRS) through the current, mid-term and final control.

Current control is evaluated on a 100-point scale (see Generalized criteria for assessing students' knowledge ).

Generalized criteria for assessing students' knowledge (current control)

95-100 points ( A ) deserves a student who has discovered a comprehensive, systematic and deep knowledge of the educational program material, independently completed all the tasks provided for in the program, deeply mastered the basic and additional literature recommended by the program, actively worked in practical classes, versed in basic scientific concepts on the studied discipline, which has shown creative abilities and a scientific approach to understanding and presenting educational program material, the answer is rich in the accuracy of the terms used, the material is presented sequentially and logically.

A student deserves 90-94 points ( A - ), who has discovered comprehensive, systematic knowledge of the educational program material, independently completed all the tasks provided for in the program, deeply mastered the basic literature and is familiar with the additional literature recommended by the program, actively worked in practical classes, and showed the systematic nature of knowledge discipline sufficient for further study, as well as the ability to replenish them independently, the answer is accurate in the terms used, the material is presented sequentially and logically.

85-89 points ( B + ) are deserved by a student who has discovered full knowledge of the educational program material, does not admit significant inaccuracies in the answer, independently completed all the tasks stipulated by the program, mastered the basic literature recommended by the program, actively worked in practical classes, showed a systematic nature of knowledge discipline sufficient for further studies, as well as the ability to replenish them independently.

80-84 points ( B ) deserves a student who has discovered a fairly complete knowledge of the educational program material, does not allow significant inaccuracies in the answer, independently completed all the

tasks stipulated by the program, mastered the basic literature recommended by the program, actively worked in practical classes, showed a systematic nature of knowledge discipline sufficient for further studies, as well as the ability to replenish them independently.

A student deserves 75-79 points ( B - ) who has discovered a sufficiently complete knowledge of the educational program material, does not allow significant inaccuracies in the answer, independently completed the basic tasks stipulated by the program, learned the basic literature recommended by the program, and was distinguished by sufficient activity in practical classes, which showed a systematic the nature of knowledge in the discipline, sufficient for further studies.

60-74 ( C ) a student deserves to have discovered knowledge of the main educational and program material in the amount necessary for further studies and upcoming work in the profession, not distinguished by activity in practical classes, independently completed the basic tasks stipulated by the program, mastered the basic literature, but allowed some errors in their implementation and in the answer to the exam, but possessing the necessary knowledge for their independent elimination.

60-64 points ( C - ) are deserved by a student who has discovered knowledge of the main educational program material, was not distinguished by activity in practical classes, independently completed the basic tasks stipulated by the program, but has made some errors in their implementation and in the answer to the exam, but possessing the necessary knowledge to eliminate the mistakes made under the guidance of a teacher.

50-59 points ( D ) are deserved by a student who has discovered knowledge of the main educational program material, was not distinguished by activity in practical classes, independently completed the basic tasks stipulated by the program, but made errors in their implementation and in the answer to the exam, but possesses the necessary knowledge to eliminate under the guidance of a teacher of the most significant errors.

25 - 49 points ( FX ) are deserved by a student who has found satisfactory knowledge of the main educational program material, was not distinguished by activity in practical classes, independently completed the basic tasks stipulated by the program, but made significant errors in their implementation (often with a delay in delivery deadlines) and the answer to the exam , but possessing the basic necessary knowledge to eliminate the most significant errors under the guidance of a teacher.

0- 24 points ( F ) is awarded to a student who has discovered gaps in knowledge or lack of knowledge in a significant part of the main educational program material, has not completed the basic tasks independently of the program, has made fundamental mistakes in fulfilling the tasks specified in the program, and has not completed the basic practical ones, seminars, laboratory classes, and which cannot continue training or begin professional activity without additional classes in the relevant discipline.

The procedure for accumulating points in the disciplines of OP “ Financial Engineering ”

During the first 7 weeks of the semester on disciplines OP " Financial engineering " There are 7 jobs. The average score of the current control ( Tk ) is determined by the arithmetic mean of the obtained points (from 0 to 100).

In the next 8 weeks of the semester of the discipline , 8 tasks are provided.

Boundary control takes place in writing. Student u need to answer questions and / or tests. By Landmark control allowed the student s who have completed SRSP tasks and CDS on schedule.

The first rating (also the second rating) is determined from the sum of all current control ratings divided by the number of ratings + the midterm control rating divided by 2 (arithmetic mean value).

The first rating will be  $P_1 = (Tk_1 + Pk_1) / 2$

where: Tk<sub>1</sub> arithmetic average of the first current control;

Rk<sub>1</sub> - assessment of the first milestone control.

The second rating will be  $P_2 = (Tk_2 + Pk_2) / 2$

where: Tk<sub>2</sub> arithmetic mean score for the second current control;

Pk<sub>2</sub> - assessment of the second midterm control.

The absence of lectures *without a valid reason* reduces the assessment of the assignments by 3 points, the absence of practical and laboratory classes leads to a decrease in the assessment of the assignments by 5 points.

When skipping classes *for good reason*, it is allowed to work out the material passed. The average rating (Rsr.) is admission to the exam based on the results of the first rating and the second rating and is at least 50 points. The average rating (Rs.) for an exam is determined as follows:

$$R_{av.} = (P_1 + P_2) / 2$$

#### Calculation of the final grade

After the discipline exam, the final grade for the discipline in percentage is displayed, which is determined by the formula:

$$\text{And } \% = \frac{(P_1 + P_2)}{2} \times 0.6 + E \times 0.4$$

where:  $P_1$  - percentage of the rating of the first rating;

$P_2$  is the percentage of the second rating;

E is the percentage of the examination score.

The level of achievement on the course program is evaluated on the scale of final grades, accepted in credit technology training:

Score by literal the system	Digital equivalent points	% - content	Score by traditional the system
A	4,0	95-100	Excellent
A-	3,67	90-94	
B+	3,33	85-89	Good
B	3,0	80-84	Good
B-	2,67	75-79	
C+	2,33	70-74	Satisfactory
C	2,0	65-69	Satisfactory
C-	1,67	60-64	
D+	1,33	55-59	Satisfactory
D	1,0	50-54	
FX	1,0	25-49	Satisfactory
F	0	0-24	Failure

**Approval Sheet****Name of educational program:**

<b>No. p / p</b>	<b>Position, academic or academic degree and full name of the developer of the educational program</b>	<b>the date</b>	<b>Signature</b>	<b>Note</b>
1	Shildibekov Erlan Zharzhanovich, Head of Department of Economics and Business, assistant-professor, PhD			
2	Ananyev Timur Vladimirovich, Senior lecturer of the Economics and Business Department of JSC IITU			