


AGREED

Chairman of the EMC, Vice-Rector of AEA.


Mustafina A.K.
"11" March 2023

APPROVED

Chairman of the Board Rector
JSC "International University
Information Technologies"


Khikmetov A.K.
"30" March 2023



EDUCATIONAL PROGRAM 6B04105 Financial Technology

Education area code and classification: 6B04 Business, management and law

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

Educational programs B046 Finance, Economics, Banking and Insurance

Levels of qualifications for ISCED: 6

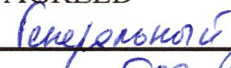
Levels of qualifications for NQF: 6

Levels of qualifications for SQF: 6

Duration: 4 years

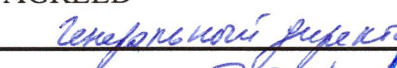
Number of credits: 240 ECTS

AGREED


Danlyatov
"25" March 2023



AGREED


Muidanov A.A.
"17" April 2023



Almaty, 20 23

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LIST OF ABBREVIATIONS AND SYMBOLS

HE	Higher education
SOSE	State obligatory standard of education
EQF	European Qualifications Framework
KS	Knowledge, skills
NCO	National Classifier of Occupations
NQF	National Qualifications Framework
NQS	National qualification system
GED	General educational discipline
BD	Basic discipline
PD	Profile discipline
EP	Educational Program
SQF	Sectoral Qualifications Framework
PS	Professional standard
PE	Postgraduate education
GC	General competencies
BK	Basic competencies
PC	Professional competencies
ROK	The Republic of Kazakhstan
LO	Learning Outcome
QMS	Quality Management System
UC	University component
CC	Component by choice
ISCED	International Standard Classification of Education

1. DESCRIPTION OF THE EDUCATIONAL PROGRAM

The Financial Technology Education Program brings together very important modules and electors to provide key quantitative and analytical skills, knowledge of the financial sector and provides hands-on experience through immersion in learning. The program allows you to understand, execute and possibly develop financial innovations using appropriate tools and techniques. The program also demonstrates analytical skills to create, manage, and survey large data sets applicable to the financial sector, as well as critical awareness of current financial technology challenges. A number of programming tools will facilitate real-time implementation of financial models and allow investment decisions and data to be analyzed and evaluated.

2. GOALS AND OBJECTIVES OF THE EDUCATIONAL PROGRAM

The goal of the EP is the intended end result, to be clearly articulated, achievable and measurable. Training of financial professionals - financial professionals of the next generation. Financial innovations include the design and development of new financial products, strategies and systems to meet the needs of financial institutions, corporations, governments.

Tasks:

- 1) Develop students' ability to focus on social and ethical values in their professional activities; the foundations of Kazakhstan's legal system and legislation to become a highly educated person with a broad outlook and culture of thinking;
- 2) Develop the skills of market marketing analysis, assessment of the state of the industry or industry, making forecasting based on mathematical and statistical methods and mapping financial and economic processes to solve specific business (production) tasks with the use of ICT;
- 3) Form the ability to interact with project teams, interested stakeholders, effectively organize groups and manage the development, implementation of projects, inc. investment, attracting the necessary and sufficient resources (labour, financial, etc.) On local and international stock markets to achieve the company's goals;
- 4) Instill effective operating skills in the competitive landscape of today's financial institutions: create ecosystem strategy, new fintech marketplaces, disruptive technologies, and secure operations that reduce the risks of fraud through the use of block chain technology.
- 5) Prepare to participate in the development, formation and implementation of the investment strategy of the bank, the company taking into account fundamental, technical analysis; designing financial technologies and products with risk assessment.

3. PASSPORT OF THE EDUCATIONAL PROGRAM "FINANCIAL TECHNOLOGIES"

3.1. Summary

No	Field name	Note
1	Education code and classification	6B04 Business, Management and Law
2	Code and classification of training directions	6B041 Business and Management
3	Group of educational programs	B-046 Finance, Economy, Banking and Insurance
4	The name of the educational program	Financial technology
5	Summary of the educational program	The Financial Technology Education Program demonstrates analytical skills to create, manage, and survey large data sets applicable to the financial sector, as well as critical awareness of current financial technology challenges. A number of programming tools will facilitate real-time implementation of financial models and allow investment decisions and data to be analyzed and evaluated.
6	The goal of the EP	Training of financial professionals - financial specialists of the new generation. Financial innovations include the design and development of new financial products, strategies and systems to meet the needs of financial institutions, corporations, governments.
7	ISCED level	6
8	NRK level	6
9	Orc level	6
10	The list of competences of the educational program:	<p>OK1: The ability to focus on social and ethical values in your professional life; the basis of Kazakhstan's legal system and legislation.</p> <p>OK2: Have an understanding of ethical and spiritual values; about sociological approaches to personality, basic patterns and forms of regulation of social behavior; the essence of power and political life, political relations and processes, the role of political systems in society and various social groups; about the role of consciousness and self-awareness in the behavior, communication and activity of people, the formation and formation of personality.</p> <p>OK3: Owning ethical and legal standards of conduct; a system of practical knowledge and skills that ensure the acquisition, development, improvement and activation of psychophysical abilities and qualities, acquisition, preservation and promotion of health, the ability to work in a team, properly defend their point of view, offer new solutions.</p>

OK4: The ability and willingness to understand the role of art, to strive for aesthetic development and self-improvement, to respect and care for historical heritage and cultural traditions, tolerably perceive social and cultural differences, to understand the diversity of cultures and civilizations in their interaction by the ability and readiness to analyze the logic of various kinds of reasoning, public speaking, reasoning, discussion and debate.

OK5: The ability and willingness to understand the driving forces and patterns of the historical process, the place of the person in the historical process, the political organization of society, the analysis of political events and trends, and responsible participation in political life.

OK6: The ability and willingness to analyze the logic of various kinds of reasoning, public speaking, reasoning, discussion and polemics.

OK7: The ability and willingness to operate in various areas of public life in accordance with the moral and legal norms adopted in society.

OK8: To be able to adequately navigate in different social situations; express and justify their position on issues related to values about the historical past; to find compromises, to correlate their opinion with the opinion of the collective.

OK9: Have basic knowledge that contributes to the formation of a highly educated personality with a broad outlook and culture of thinking. The ability to find organizational and management solutions in non-standard conditions and in the conditions of different opinions and willingness to be responsible for them.

OK10: The ability to communicate in the state language and the language of inter-ethnic communication; the ability to logically correct, reasoned and clearly build oral and written speech; readiness to use one of the foreign languages.

BC1: The ability to form a mathematical framework for financial decision-making.

BC2: Have the skills to provide statistical analysis of financial and economic data.

BC3: Be competent to put on financial and economic processes to solve specific problems.

BC4: Capable of processing financial and economic data using modern information technology, computer technology, databases and application packages in its subject area.

BC 5: Being capable of conducting research using research methods and methodology; to solve research and research and production problems.

BC6: Assess the economic condition of the country and the prospects for development.

BC7: The ability to assess the state of an industry or industry by making predictions.

BC8: Be able to conduct an economic analysis of the company's activities, taking into account the factors of influence of the internal and external environment.

BC9: To be able to calculate the cost of production and productivity.

BC10: The ability to use basic ICT skills in a business career.

BC11: Be able to use the Matlab programming environment, perform mathematical calculations on your computer.

BC12: Understand the concepts, practices and management of software development and how it relates to system engineering.

BC13: To be able to perform static testing to identify flaws and use different dynamic test development techniques to write test examples.

BC14: Ready to use SAP's resources and capabilities.

BC15: Be able to make technical tasks to solve financial and economic problems.

BC16: To be able to develop corporate information management systems.

- BC17: The ability to analyze how new technologies can be used to improve compliance and regulatory reporting.
- BC18: The ability to interact with project teams, organize teams effectively, and manage projects.
- BC19: Be able to manage the resources (labour, financial, etc.) of the enterprise.
- BC20: The ability to conduct market marketing analysis, develop and implement a marketing and commercial plan at the national level, using IT tools.
- BC21: The ability to apply knowledge and techniques that can be best used to successfully conduct business internationally.
- BK22: The ability to cope with accounting issues, to keep track of the business activities of the company.
- BC23: Skills of financial management, to be able to conduct financial, management analysis of the company's activities.
- BC24: The ability to prepare and consolidate the budget, reports on the implementation of the budget for financing and development of the company's investment program.
- BC25: The ability to assess the investment attractiveness of the project, the planned deals.
- BC26: Be able to use the necessary knowledge about the principles of the banking and financial environment in which banks operate.
- BK27: The ability to manage a portfolio of securities: to assess stocks and bonds, and to outperform a portfolio of securities, derivatives and speculative transactions and strategies, to limit the profitability of the portfolio of securities using the Monte Carlo method.
- BC28: Skills to conduct financial calculations in Excel.
- BC29: Be able to perform the tasks of acquiring and effectively distributing the funds of a business organization and forming the optimal capital structure.
- BC30: Ready to use the knowledge of financial markets and intermediaries to achieve financial and investment goals.
- PC1: Owning fundamental knowledge about random processes used in financial mathematics
- PC2: The ability to develop financial models to analyze and solve financial problems; to examine the impact of different factors on the final financial result.
- PC3: Be able to conduct financial analysis.
- PC4: The ability to review major financial innovations, models, and modeling techniques used in different applications.
- PC5: Ready to participate in the development, formation and implementation of the company's investment strategy, taking into account fundamental, technical analysis.
- PC6: Be able to use Big Data (Data Science) and cloud computing technologies to analyze financial markets, information about companies' financial performance in making investment decisions.
- PC7: The ability to design financial technologies and products.
- PC8: Be able to use qualitative and quantitative methods of risk management, analyze and evaluate them.
- PC9: Be able to manage assets and liabilities in the company.
- PC10: The ability to analyse the investment climate and investment in countries where investments have been made or are planned.
- PC11: Be able to find new investment ideas, projects on local and international stock markets; attracting investors.

11	<p>The results of the educational program:</p> <p>LO1 Know Kazakh / Russian and foreign language at a level that allows the main types of speech activity by various methods oral and written communication.</p> <p>LO2 Conduct accounting of business, financial and management analysis.</p> <p>LO3 Be able to apply acquired knowledge in subjects from the chosen by student additional educational program to ensure competitive advantage in employment and meet modern market requirements</p> <p>LO4 Demonstrate interpersonal skills, initiative and psychological readiness to work, including the work in a team and to make management and technical solutions.</p> <p>LO5 Solve business problems through modeling and automation; identify innovative solutions; plan IT-projects; generate business requirements; prepare terms of reference for the solution of economic problems; develop corporate information management system; use Matlab programming environment, resources and SAP capabilities.</p> <p>LO6 Apply various mathematical and statistical methods for solving management problems; a systematic approach to the quantitative analysis of the information to make management decisions.</p> <p>LO7 Conduct market analysis, develop a strategy and directs the business, to attract and retain clients and investors; planning, find and use the resources of business, using IT tools.</p> <p>LO8 Predict the course of innovation processes; develop and manage innovative programs and projects; assess the effectiveness of investments in innovation.</p> <p>LO9 Justify and evaluate the effectiveness of financial decisions; to carry out an assessment of financial assets; develop investment projects; find new investment ideas, projects on the local and international capital markets; apply modern techniques and methods of financial planning, budgeting and forecasting; exercise to attract investors.</p> <p>LO10 Analyze independently the processes and phenomena occurring in contemporary society; correctly and persuasively articulate their thoughts orally and in writing; and apply the acquired knowledge to real-world situations.</p> <p>LO11 Identify the main socio-economic problems of society, IT-enterprise, analyze them, evaluate the economic parameters of the operation and the economic potential, industry, company.</p> <p>LO12 Carry out financial calculations in program; to determine the yield of the portfolio of securities using the Monte Carlo method; perform tasks to acquire and efficient allocation of funds business of the organization.</p>	
12	Form of learning	Full-time
13	Learning languages	English
14	Number of credits	240
15	Awarded academic degree	Bachelor of Science in Economics and Business in the educational program "6B04105-Financial Technologies"
16	Developer (and) and authors:	<p>International University of Information Technology, Department of Economics and Business:</p> <p>1. Shildibekov E.Y.</p> <p>2. Beisen E</p>

3.2. Matrix of the appropriate outcomes of an educational program with the competencies that are formed

	LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10	LO11	LO12
OK 1	V											
OK 2	V											
OK 3	V					V						
OK 4	V											
OK 5	V											
OK 6	V					V						
OK 7	V											
OK 8	V									V		
OK 9						V						
OK 10	V	V										
BC 1			V								V	V
BC 2			V								V	V
BC 3			V	V			V	V	V			
BC 4			V				V		V			
BC 5			V									
BC 6				V				V	V	V		
BC 7				V				V		V		
BC 8				V				V		V		
BC 9				V			V					
BC 10					V					V		
BC 11			V		V							
BC 12					V							
BC 13					V							V
BC 14					V			V	V			
BC 15					V			V				
BC 16				V	V			V		V		
BC 17								V				
BC 18						V			V	V		
BC 19						V				V		
BC 20						V				V		
BC 21								V				
BC 22							V					
BC 23							V	V				
BC 24							V	V				
BC 25								V	V	V	V	
BC 26								V			V	
BC 17								V			V	
BC 28					V			V			V	
BC 29						V	V	V			V	
BC 30								V			V	
PC 1		V									V	V
PC 2				V				V			V	
PC 3							V	V			V	
PC 4								V			V	
PC 5						V		V			V	
PC 6					V			V			V	
PC 7					V			V	V		V	V
PC 8		V						V			V	V
PC 9							V	V			V	V
PC 10								V			V	
PC11								V	V	V	V	

3.3. Discipline information

No	Discipline name	Summary of discipline	Credits	Formed competencies (codes)	Prerequisites	Postrequisites
1.	The history of Kazakhstan	This course consists of teaching the History of the country to understand the role and significance of events in the historical context.	5	OK5		
2.	Philosophy	This course consists of learning philosophy to form a conscious attitude to the environment.	5	OK1, OK2, OK3, OK4, OK5		
3.	Foreign language	This course consists of learning a foreign language to develop communication skills in a foreign language.	10	OK10		Business English
4.	Kazakh (Russian) language	This course consists of learning Kazakh/Russian to develop communication skills in state, Russian languages.	10	OK10		
5.	Information and communication technologies	The course provides an overview in various areas of ICT, enabling students to gain basic knowledge of the application of modern ICT in their scientific and practical work, for self-study and other purposes.	5	BC10, BC14, BC20, BC28		
6.	Psychology	The course introduces different concepts, basic concepts, patterns of management psychology	2	OK3, OK4		Management Marketing
7.	Political science	The course gives students knowledge about the political sphere of society, an idea of the relationship and interaction between politics and governance	2	OK2		Entrepreneurial law
8.	Sociology	This course consists of teaching sociology to understand society and social development.	2	OK2, OK3, OK4, OK8		Management Marketing
9.	Cultural studies	The course forms the necessary knowledge about cultural science, generates an understanding of the uniqueness of the cultures of peoples	2	OK2, OK3, OK4, OK8	Philosophy	Marketing
10.	Physical culture	The course provides solutions to the basic problems of physical education of, provides for the passing of control exercises and regulations.	8	OK3		
11.	Economic theory	The course goal is to study and explain processes and the phenomena of economic life, and for this purpose it should get into an essence of deep processes, explain laws and predict ways of their use. attempts to provide	5	BC3, BC4, BC6		Microeconomics, Macroeconomics

		comprehensive coverage of all the key elements in the discipline					
12.	Mathematics 1	The course focus on students' understanding of calculus concepts and provide experience with methods and applications. The main emphasis is on a metarepresentational approach to calculus, with concepts, results, and problems being expressed graphically, numerically, analytically, and verbally. The course covers topics in these areas, including concepts and skills of limits, derivatives, definite integrals.	5	BC1, BC2, PC1	Quantitative methods		
13.	Microeconomics	The course introduces microeconomics to students. It provides the basic principles and the intuition behind modern professional economic thinking about buying, selling, setting prices, competing for customers, looking for jobs, and earning a living. It also gives a first outlook on the toolbox used in the microeconomic analysis. During lectures, students get familiar with basic economic terms and concepts.	5	BC3, BC4, BC6	Economic theory Marketing		
14.	Macroeconomics	This intermediate-level course examines the determination of income, employment, the price level, interest rates and exchange rates in the economy. Piece by piece, we construct a model that describes how each of these variables is determined in the long- and short-run. We investigate issues of long-run growth, business cycles, international trade, and monetary and fiscal policy. We pay special attention to current developments, with an international perspective throughout.	5	BC3, BC4, BC6	Economic Theory Marketing		
15.	Statistics	The course gives an overview of the basic laws of a probabilistic-statistical approach to solving various problems. Topics discussed include displaying and describing data, the normal curve, regression, probability, statistical inference, confidence intervals, and hypothesis tests with applications in the real world. Students also have the opportunity to analyze data sets using technology.	5	PC1BK23, B.C.	Mathematics 2 Quantitative methods in business		

16.	Finance	The course of "Finance" represents the basic studying discipline. It includes both theoretical rules of science about finance and practical aspects of use of category in economic processes. Conceptually discipline is based on criteria and principles of economic theory and its continuation, concrete definition in specific sphere of financial relations. The financial relations as the integral part of the industrial relations has specificity consisting of their character, directed on reproduction of a public product with formation of target money funds.	5	BC23, BC24, BC25, BC26, BC27	Microeconomics, Macroeconomics	Corporate finance
17.	Marketing	The purpose of the course is to teach classic and modern concepts of marketing and get acquainted with the main marketing tools used by companies in practice. The course covers aspects of marketing such as: marketing strategy, promotion, market planning, distribution, industrial marketing, retail and wholesale, target marketing, digital marketing, market segmentation, marketing services and pricing.	4	BC20	Microeconomics, Macroeconomics	Digital marketing and brand management
18.	Business and Technology (ACCA)	This subject is based on ACCA program. It is designed for person who as an executive must be able to communicate with, and understand, accountants. For the lawyer who is faced with client problems that are interlaced with accounting. For engineers who must deal with business matters and who wish to be better qualified for executive positions. For financial analyst and stockholders who will be far better qualified to interpret financial statements for their clients and of course for the ordinary investor who wants to understand accounting statements. The course assumes the reader to have layman's acquaintance with such terms as accounting receivable and common stock.	5	BC22	Microeconomics, Macroeconomics	Financial accounting
19.	Professionally oriented foreign language	A course of Professional English focuses on such topics of professional interest as Future trends in IT, Computer as a friend, Computer as a foe, Minimizing the negative impacts, Magnetic storage, Optical storage, Flash memory, the Programming languages, Web design, Graphics and design, etc. It is designed to raise the students' language awareness, improve their speech skills	10	OK10	Foreign language	

		and communication competences in Professional English.					
20.	Entrepreneurial law	This course introduces students to the methodology of reading legal texts: extending from articles to treaties, constitutions, legislation and cases. It also provides an overview of the structure and hierarchical form of most domestic legal systems and their relation to international law and organizations. The course covers the basic techniques of legal research, writing and analysis. Students learn to brief cases, and write legal documents.	3	OK1, BC6, BC7, BC19, BC20	Business organization		
21.	Management accounting	The course is aimed at studying the basic methods of financial management for asset evaluation, working capital management, investment decisions, financing decisions, formation of dividend policy and capital structure. The course examines the basic principles and standards of financial accounting for the formation of accounting policy and financial reporting of the organization, the skills of cost management and decision-making based on the data of management accounting.	5	BC18, BC19	Financial reporting analysis	Financial accounting	
22.	Financial accounting	This course is aimed at providing students with the basics of financial reporting from the point of view of users of financial reporting (creditor and investor), as well as tools and methods of financial analysis for decision making. The course introduces information that an analyst can use when analyzing a company's financial performance, including the main financial statements (income statement, balance sheet, cash flow statement, and statement of changes in equity).	5	BC18, BC19	Management accounting	Buch Business technology	
23.	Mathematics 2	The aim of the course is to introduce students to the important branches of calculus and its applications in IT. During the educational process, students should learn and be able to apply mathematical methods and tools to solve various applied problems. Moreover, they study fundamental methods of studying infinitesimal variables by means of analysis, which is based on the theory of differential and integral calculations.	5	BC10	Statistics	Mathematics 1	
24.	Project management	This course examines activities related to project planning and estimating project scope and schedule. It	5	BC18, BC19, BC20		Management	

		also examines processes for managing project resources. Upon completion of this course, students are expected to be able to do the following: Plan and estimate project scope, resources, and schedule.						
25.	Management	The purpose of the course is to develop students' systemic, professional knowledge, qualification skills and skills in managing organizations in the IT industry based on the study of modern principles, methods and functions of management. At same time make student familiarity with the most important management methods and the possibilities of their practical application.	5	BC18, BC19	Microeconomics, Macroeconomics	Financial management		
26.	Quantitative methods in business	The course aims to develop a real understanding of business analysis, quantitative methods, and management science, with a focus on model building, real-life examples, and computer applications.	5	BC4, BC5, BC6, BC7, BC8	Statistics			
28.	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 functions; classification of taxes, definition of direct and indirect taxes, composition and structure of taxes.	5	BC22, BC23	Business technology, Finance,			
29.	Internship	Manufacturing practice allows to consolidate theoretical knowledge and practical skills, to form professional skills.	8	BC23, PC7	Financial management	Pre-graduate practice		
30.	Undergraduate practice	The practice expands professional skills and professional experience in the field of financial engineering, as well as facilitates the collection and organization of materials for writing a diploma project.	5	BC23, PC5, PC7	Financial investments, financial markets and intermediaries	Writing a diploma project		
31.	Financial management	The course will examine the following issues: course is designed as continuation of the course corporate finance. The course financial management pays attention to competencies required for finance department within the firm. Course omits the basics topics of introduction to finance and corporate finance and focuses heavily on investment appraisal and getting students acquainted with	5	BC24, BC29	Buch Business technology, Finance	Financial Investments		

		the concepts of risks and return. Course covers some topics of derivatives and hedging. Course keeps balance between verbal and numerical part of theory. However, as the theory of financial management requires course contains plenty of calculations.					
32.	Corporate Finance	This course aims to provide students with the basic concepts, principles, and approaches to corporate finance, enable students to apply the relevant principles and approaches to solving corporate finance problems, and help students improve their overall ability.	6	BC23, BC24, BC25	Financial Management, Business technology		
33.	Banking	The purpose of Banking course is formation of theoretical knowledge and acquisition of practical skills for solving problems in the field of banking. In the process of studying this discipline, the student expands and deepens the following competence: the ability to critically evaluate the proposed options for management decisions; in addition to develop and justify proposals for their improvement, taking into account the criteria of social and economic efficiency, risks and possible social and economic consequences.	4	BC26, PC9	Financial Statement analysis		
34.	Financial markets and intermediaries	This course forms knowledge about: the securities market; its professional members; investors; tools and their features; procedures; introduces students to the specific terms of the financial market and expands the concept of others within this area; develops the skills of analysis, critical thinking and forecasting of future cash flows and the prices of instruments, etc.	5	PC2, PC11, BC30		International business	
35.	Financial statement analysis	This course reveals the keys to effective analysis and understanding of financial statements. This course is aimed at developing the financial and analytical skills necessary for business success.	5	BC24, BC29	Business technology	Corporate finance	
36.	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	5	PC2	Financial calculations in Excel, Data Analysis and Forecasting, Statistics		

37.	Financial Risk Management	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. The course examines the classification of the forms of risk to which the organization is exposed; Planning and practical risk assessment how to assess vulnerabilities and manage financial risks, as well as risk management practices, including risk management matrix and corporate risk management policies.	4	BC28, PC2	Mathematics in Economics, Econometrica	Financial innovation
38.	Introduction to FinTech	Financial technology (FinTech) is revolutionary and rapidly changing the financial services industries. This graduate course provides an introduction to FinTech such as blockchain, cryptocurrencies (e.g., Bitcoin and Ethereum), alternative lending, machine learning, and robot-advising.	5	PC2 PC4 PC11	Corporate finance	Fundamental of programming in FinTech Introduction to Blockchain
39	Introduction to Python and libraries to data analysis and processing (BDA-1)	In this course, we will discuss the limitations of the Internet for business and economic activity and explain how blockchain technology represents the way forward. After completing this course, you will be able to explain what blockchain is, how it works and why it is revolutionary. You will learn key concepts such as mining, hashing, proof of work, public key cryptography, and double spending.	5	БК30 PC2 PC4	Introduction to FinTech	
40	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	BC 14	Financial accounting	
41	Digital marketing and brand management	Digital Marketing and Brand Management is a new and exciting combination of technology, marketing and data analytics that solves the key marketing challenges of today.	5	BC24, BC29	Marketing	

42	Introduction to SAP ERP (ERP-1)	The discipline introduces the possibilities and advantages of using information systems to automate the business processes of a company and the acquisition of knowledge of modern concepts of enterprise management based on information technology.	5	BC4, BC5, BC6, BC7, BC8	ICT	
43	Blockchain Technology	This course aims to provide students with a foundational understanding of blockchain technology, including its concepts, cryptographic principles, architecture, applications, benefits, challenges, and the ability to analyze real-world use cases and collaborate effectively.	5	PC2, PC4	ICT	
44	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			
45	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			
46	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			

3.4 List of modules and learning outcomes

Education Program Name: Financial Technology

Module code	Module Name	Credits	Learning outcomes	Disciplines that form the module	Criteria for assessing learning outcomes
General education module					
OOM6701	Social Discipline Module	20	LO 4	History of Kazakhstan Sociology Political science Cultural studies Psychology Philosophy Entrepreneurial law Foreign language Foreign language Kazakh (Russian) language Kazakh (Russian) language	Essay writing (focused on the presentation and development of argumentation, reflective assessment); Critical analysis of the situation; Critical assessment of the studied literature; Preparing a speech (fixing the problem and ways to solve it)
OOM6702	Language module	25	LO 1 LO 2	Professionally oriented foreign language	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 recording of what is happening; Observation or demonstration of real professional skills.
Basic module					
BM6701	Mathematics-analytical module	20	LO 3	Mathematics 1 Mathematics 2 Statistics Quantitative methods in business Economic theory Microeconomics	Problem solving; Analysis of the situation / case; Problem scripting; Situation modeling; Group work
BM6702	Economics module	14	LO 4	Macroeconomics	Exam (oral, written); Essay writing (focused on information reproduction); Execution of tests / mini tests; Quizzes; Cases; Video analyzes; Preparation of the presentation.

BM6703	IT module (minors)	30	LO 5 LO 10	Information and Communication Technologies Information Systems Big Data Java UI / UX Design Introduction to SAP ERP (ERP-1)	Preparation of a laboratory report; Demonstration of experience / experiment; Use of software; Preparation of practical assignments; Participation in group projects; Project design and implementation; Database creation; Website design.
BM6704	Accounting module	23	LO 7 LO 8	Marketing Digital marketing and brand management	Group work (collective discussion of the selected problem and the search for its solution); conducting surveys and interviews, preparing a project; Running tests / mini-tests.
BM6705	Marketing module	10	LO 6 LO 9 LO 10	Project management International Business Management	Role-playing; Preparation of presentation; Exam (oral, written); Essay writing (focused on information reproduction); Filling out multivariate questionnaires; Execution of tests / mini-tests; Quizzes; Participation in group projects; Design and implementation of the project.
BM6706	Finance module	15	LO 7 LO 8	Tax and taxation Financial markets and intermediaries Financial statement analysis Banking	Financial solutions; A written exam; cases. Project, virtual stock simulation.
BM6707	Management Module	14	LO 6 LO 9 LO 10	Management	Role-playing; Preparation of presentation; Exam (oral, written); Essay writing (focused on information reproduction); Filling out multivariate questionnaires; Execution of tests / mini-tests; Quizzes; Participation in group projects; Design and implementation of the project.
BM6708	Module practice	16	LO 6 LO 7	Educational practice Internship Internship Undergraduate practice	Preparation of practical tasks; Participation in group projects; Project design and implementation
PM6702	Finance module	28	LO 7 LO 8	Tax and taxation Financial markets and intermediaries Financial statement analysis Banking	Financial solutions; A written exam; cases. Project, virtual stock simulation.

PM6707	Module pre-graduate practice and protection of DP	12	LO 6	Insurance	Preparation of a report on the thesis; Demonstration of experience / experiment; Use of the software; Use of software; Preparation of practical assignments; Participation in group projects; essay, oral report.
				Financial risk management	
PM6706	Financial Technology	20	LO 11 LO 12	Writing and defending a diploma thesis, diploma project or preparation and passing of a comprehensive exam	
				Introduction to Python and libraries to data analysis and processing (BDA-1)	
				Introduction to FinTech	
				Database	
				Blockchain Technology	
				Fundamentals of R Programming for FinTech	
				Distributed Ledger Technology & Smart Contracts	
				Data Management Systems for FinTech	
				Digital Finance and Emerging Technologies	

4. EDUCATION CURRICULUM

Module code	Discipline cycle	Discipline component	Code of subject	Subject name	Academic credits	Academic study	Control in the academic period			Total	Number of hours				
							Exams	Differentiated	Term		Lectures	Laboratory	Practice	Studio	Practice
1	GER	CS	LAN6001A	Foreign language	5	1	1		5/150			45			
2	GER	CS	LAN6001KR	Kazakh (Russian) language	5	1	1		5/150			45			
3	GER	CS	HK6002	History of Kazakhstan	5	1	1		5/150	15		30			
4	GER	CS	LAN6002A	Foreign language	5	2	2		5/150			45			
5	GER	CS	LAN6002KR	Kazakh (Russian) language	5	2	2		5/150			45			
6	GER	CS	ICT6001	Information and Communication Technologies	5	2	2		5/150	15		30			
7	GER	CS	PhC6005	Physical Culture	4	2	2		4/120			120			
8	GER	CS	SPS6005	Psychology	2	3	3		2/60	15		15			
9	GER	CS	SPS6004	Cultural studies	2	3	3		2/60	15		15			
10	GER	CS	PhC6006	Physical Culture	4	3	3		4/120			120			
11	GER	CS	SPS6003	Political science	2	4			2/60	15		15			
12	GER	CS	SPS 6002	Sociology	2	4	4		2/60	15		15			
13	GER	CS	SPS6001	Philosophy	5	5	5		5/150	15		30			
14	GER	UC	ECO6001	Economic theory	5	1	1		5/150	15		30			
15	BS	UC	MAT6009	Mathematics 1	5	1	1		5/150	15		30			
16	BS	UC	LAW6006	Entrepreneurial law	3	1	1		3/90	15		15			
17	BS	UC	MAT6010	Mathematics 2	5	2	2		5/150	15		30			
18	BS	UC	PP6705	Educational practice	3	2			3/90						90

19	BS	UC	ECO6701	Microeconomics	5	3	3			5/150	15	30		
20	BS	UC	ACC6701	Business and Technology (ACCA)	5	3	3			5/150	15	30		
21	BS	UC	LAN6001PA	Professionally oriented foreign language 1	5	3	3			5/150		45		
22	BS	UC	MRK6703	Marketing	4	3	3			4/120	15	30		
23	BS	UC	ECO6702	Macroeconomics	5	4	4			5/150	15	30		
24	BS	UC	MAT6012	Statistics	5	4	4			5/150	15	30		
25	BS	UC	ACC6704	Financial accounting	5	4	4			5/150	15	30		
26	BS	UC	PP6702	Internship	4	4	4			4/120			120	
27	BS	UC	LAN6001PA2	Professionally oriented foreign language 2	5	4	4			5/150		45		
28	BS	UC	MGT6719	Management	5	5	5			5/150	15	30		
29	BS	UC	ACC6703	Management accounting	5	5	5			5/150	15	30		
30	BS	UC	PP6703	Internship	4	6	6			4/120			120	
31	BS	UC	RM6701	Research Methodology	4	7	7			4/120	15	30		
32	BS	UC	FIN6714	Tax and taxation	5	7	7			5/150	15	30		
33	BS	ES	(kv) 4)MGT6703	Project management						5/150	15	30		
34	BS	ES	(kv) 4)MGT6716	Change management	5	5	5			5/150	15	30		
35	BS	ES	MIN601	Minor 1	5	5	5			5/150	15	30		
36	BS	ES	(kv) 5)FIN6715	1C Accounting						5/150	15	30		
37	BS	ES	(kv) 5)SFT6143	Introduction to SAP ERP (ERP-1)	5	6	6			5/150	15	30		
38	BS	ES	MIN602	Minor 2	5	6	6			5/150	15	30		
39	BS	ES	(kv) 6)MGT6706	Startups and entrepreneurship						5/150	15	30		
40	BS	ES	(kv) 6)MRK6702	Digital marketing and brand management	5	7	7			5/150	15	30		

5. LIST OF ADDITIONAL EDUCATIONAL PROGRAMS

Name of an additional educational program (Minor)	List of disciplines forming Minor	Total loans	Semesters of study	Minor development documents
Financial technology	Finance Business technology Financial innovation	15	5-7	Transcript

6. REQUIREMENTS TO ASSESS THE RESULTS OF EDUCATIONAL PROGRAM EDUCATION

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

Monitoring and assessment of the learning outcomes of EP of university students is carried out according to the point-rating system by conducting current, midterm and final control.

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

Generalized criteria for assessing the knowledge of students (monitoring)

95-100 points (A) deserve a student who has discovered a comprehensive, systematic and deep knowledge of the educational program material, who independently completed all the tasks provided for by the program, who has deeply assimilated the basic and additional literature recommended by the program, who actively worked in practical classes, who understands the basic scientific concepts of the studied discipline, who showed creativity and a scientific approach in understanding and presenting the educational program material, the answer is distinguished by the richness and accuracy of the terms used, the material is presented consistently and logically.

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

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

80-84 points (B) deserve a student who has discovered a sufficiently complete knowledge of the educational and program material, does not allow significant inaccuracies in the answer, who independently completed all the tasks provided for in the program, who has mastered the basic literature recommended by the program, who actively worked in practical classes, showed the systematic nature of knowledge in the discipline, sufficient for further study, as well as the ability to independently replenish them.

75-79 points (B-) are deserved by a student who has discovered a sufficiently complete knowledge of the educational and program material, does not admit significant inaccuracies in the answer, who independently completed the main tasks provided for by the program, who has mastered the basic literature recommended by the program, who was distinguished by sufficient activity in practical studies, which showed the systematic nature of knowledge in the discipline, sufficient for further study.

60-74 (C) deserves a student who discovered knowledge of the basic educational and program material in the amount necessary for further study and future work in the profession, who was not distinguished by activity in practical classes, who independently completed the main tasks provided for by the program, who mastered the main literature, however, who made some errors in their implementation and in the answer to the exam, but having the necessary knowledge to eliminate them on their own.

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

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

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

0-24 points (F) are given to a student who has found gaps in knowledge or lack of knowledge in a significant part of the main educational and program material, has not completed the main tasks provided by the program independently, has made fundamental mistakes in the implementation of the tasks provided for by the program, has not completed the main practical, seminar, laboratory studies, and who cannot continue their studies or start professional activities without additional classes in the relevant discipline.

The point-rating letter system for assessing the educational achievements of students with their interpretation in the traditional grading scale:

Letter Grade	Numerical equivalent	Points (%)	Traditional system assessment	General description of grading criteria
A	4,0	95-100	Excellent	The student has knowledge of the subject in the full scope of the curriculum, understands the discipline deeply enough; shows a high level of knowledge that exceeds the volume provided by the syllabus, gives an exhaustive answer
A-	3,67	90-94		The student has knowledge of the subject in the full scope of the curriculum, understands the discipline deeply enough; gives an exhaustive answer
B+	3,33	85-89	Good	The student shows a complete, well-founded knowledge of the subject, but the answers did not always highlight the main idea, rational methods of calculation were not always used; the answers were mostly brief and sometimes unclear.
B	3,0	80-84		
B-	2,67	75-79		
C+	2,33	70-74		

C	2,0	65-69	Satisfactory	The student demonstrates sufficient knowledge of the subject, but without proper depth and justification, the answers are unclear and without proper logical sequence.
C-	1,67	60-64		
D+	1,33	55-59		
D	1,0	50-54		
FX	0,5	25-49	Unsatisfactory	The student demonstrates insufficient knowledge of the subject, positive answers were not given to individual questions.
F	0	0-24		The student demonstrates a very low level of knowledge of the subject.

The procedure for accumulating points in the disciplines of EP “financial Technology” During the first 7 weeks of the semester on disciplines EP “E-Business” 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 1 - arithmetic average of the first current control.

Rk 1 - assessment of the first milestone control.

The second rating will be $P 2 = (Tk 2 + Pk 2) / 2$

where: Tk 2 - arithmetic mean score for the second current control.

Pk 2 - 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:

$$Rav . = (P 1 + P 2) / 2$$

Calculation of the final grade