
Faculty of Digital transformation

Department of "Economy and Business"

APPROVED BY
Vice-rector for academic affairs,
International Information
Technology University JSC
Umarov T.F.
Signature) (Full name)
_____ 2021.



6B04105

(Code of Academic Program)

Financial Technologies

(Name of Academic Program)

CATALOGUE OF ELECTIVE DISCIPLINES 2021

IITU JSC

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The catalogue of elective disciplines for the AP Financial Technologies is developed according to the working curriculum of the Finance specialty.

The catalogue of elective disciplines was discussed at a meeting of the department Economics and Business.

minutes No. 11 from "26" 02 2021.

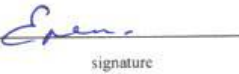
Head of Department


signature

Shildibekov.E. Z Ph.D.

Full name, position, degree

CED compiler


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Beisen.E MSc

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The catalogue of elective disciplines was approved at a meeting of the Academic Council of "International Information Technology University" JSC minutes No. 4 from "30" 03 2021.

Director of Academic Affairs


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Mustafina A.K

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1 TERMS AND ABBREVIATIONS

1.1 Academic program is a single set of basic characteristics of education, including goals, results and content of training, the organization of educational process, ways and methods for their implementation and criteria for assessing learning outcomes.

The content of academic program of higher education consists of three cycles of disciplines - general education disciplines (hereinafter - GED), basic disciplines (hereinafter - BD) and core disciplines (hereinafter - CD).

The cycle of GED includes disciplines of the compulsory component (hereinafter - CC), the university component (hereinafter - UC) and (or) the component of choice (hereinafter - COC). BD and CD include disciplines of UC and COC.

1.2 Catalogue of elective disciplines (CED) is a systematic annotated list of all COC disciplines, for the entire training period, containing a brief description indicating the purpose of study, a summary of main sections and expected learning outcomes. CED reflects the prerequisites and postrequisites of each academic discipline. It should provide the students with the possibility of an alternative of elective disciplines for the formation of an individual educational trajectory.

Based on academic program and CED, the students develop individual curricula with the help of advisers.

1.3 Individual curriculum (IC) is a curriculum formed by the students independently with the help of an adviser for each academic year on the basis of the academic program, the catalogue of elective disciplines or modules.

IC defines an individual educational trajectory of each student separately. It includes disciplines and types of educational activities (internship, experimental research, forms of final certification) of the compulsory component (CC), the university component (UC) and the component of choice (COC).

1.4 Advisor is a teacher who performs the functions of an academic mentor of a student (according to the appropriate academic program) and assists in choosing a learning path (creating an individual curriculum) and mastering the academic program during the training period.

1.5 The university component is a list of compulsory educational disciplines determined by the university independently for the mastering of the academic program.

1.6 The component of choice is a list of academic disciplines and the corresponding minimum amounts of academic credits offered by the university and independently chosen by students in any academic period, considering their prerequisites and postrequisites.

1.7 Elective disciplines are educational disciplines that are a part of the university component and the component of choice in the framework of established academic credits, introduced by organizations of education reflecting the individual preparation of students and considering the specifics of socio-economic development, the needs of a particular region and established scientific schools.

1.8 Postrequisites are the disciplines and (or) modules and other types of academic work, the study of which requires knowledge, skills and competencies acquired at the end of the study of this discipline and (or) modules.

1.9 Prerequisites are the disciplines and (or) modules and other types of educational work containing knowledge, abilities, skills and competencies necessary for the mastering of the studied discipline and (or) modules.

1.10 Competencies are the ability of the practical use of acquired knowledge and skills in professional activities.

2 ELECTIVE DISCIPLINES

Discipline cycle	Discipline code	Discipline name	Semester	Credit	Prerequisites
3rd Year					
BD	MRK6702	Digital Marketing and Brand Management	5	5	Marketing
BD	MAT6011	Econometrics	5	5	Statistic
BD	MGT6701	Management	5	5	Economic Theory, Macroeconomics, Microeconomics
BD	SFT6143	SAP	6	5	ICT
BD	MGT6703	Project management	6	5	Management
BD	ACC6703	Management accounting	6	5	Financial accounting
4th Year					
BD	MGT6714	International Business	7	5	Management
BD	FIN6714	Tax and Taxation	7	5	Finance
BD	FIN6715	1C Accounting	7	5	Finance
CD	FIN6716	Introduction to FinTech	7	5	Corporate Finance, Financial markets, and intermediaries
CD	SFT6156	Introduction to Programming	7	5	
CD	SFT6142	Data Base	8	5	ICT
CD	SFT6132	Introduction to Python and libraries to data analysis and processing (BDA-1)	8	5	Object-oriented programming

3 DESCRIPTION OF ELECTIVE DISCIPLINES

3.1 Digital marketing and brand management

Description of discipline	
Code of discipline	MRK6702
Name of discipline	Digital Marketing and Brand Management
Number of credits (ECTS)	5
Course, semester	3,5
Department	Economy and Business
Course author (s)	Shildibekov E.Zh
Prerequisites	Marketing
Postrequisites	
The aim of the study of a discipline	The course aims to develop a deep understanding of modern digital marketing concepts and technologies that professionals in the field and academia widely use. This course provides an overview of digital marketing, the sensitive art of building relationships between products and services and unique consumers, businesses, and markets.
Brief course description (main sections)	Digital Marketing and Brand Management is a new and exciting combination of technology, marketing and data analytics that solves the critical marketing challenges of today. Many challenges include new ways of interacting with customers and gaining more profound customer knowledge by facilitating online communication channels and better meeting customer needs. This course also explores customer behaviour patterns and analyzes them to achieve new levels of customer satisfaction and drive traffic to a website or application.
Expected Learning Outcomes (knowledge, abilities, skills, and competencies acquired by students)	Students who complete the course will be able to: <ul style="list-style-type: none"> • Be able to outline an approach to developing digital marketing plans - understand the meaning of each element of the marketing mix on the Internet - browse and select electronic models suitable for your business • Understand online customers and their buying behavior - develop a strategy and plan for social media marketing management - understand the basics of web design - evaluate the range of options for increasing traffic • Know the success factors for various online communication tools

3.2 Econometrics

Description of discipline	
Code of discipline	MAT6011
Name of discipline	Econometrics
Number of credits (ECTS)	5
Course, semester	3,5
Department	Economy and Business
Course author (s)	Shildibekov E.Zh
Prerequisites	Statistics
Postrequisites	

The aim of study of a discipline	to give students a scientific understanding of the methods and models that allow obtaining quantitative expressions for the laws of economic theory based on economic statistics using statistical tools
Brief course description (main sections)	The curriculum of the discipline can be used in additional vocational education and vocational training according to the profile
Expected Learning Outcomes (knowledge, abilities, skills, and competencies acquired by students)	<p>As a result of mastering the discipline, the student must know:</p> <ul style="list-style-type: none"> • Know the methodology of econometric research • Know the main types of econometric data • Know basic econometric models for cross-sectional data • Know the features of time series analysis <p>be able to:</p> <ul style="list-style-type: none"> • Be able to formulate the problem in a form suitable for econometric research • Be able to find the data needed to conduct an econometric study • Be able to test statistical hypotheses • Be able to build point and interval forecasts <p>own:</p> <ul style="list-style-type: none"> • Possess the skills of working in basic statistical packages • Have the skills to evaluate regression models • Possess the skills of diagnosing models • Have the skills to interpret the main results of model evaluation

3.3 Management

Description of elective course	
Discipline code	MGT6701
Name of discipline	Management
Number of credits	5
Year, semester	3,5
The name of the department	“ <u>Economics and Business</u> ”
Course teacher	Omarov G.B.
Pre-Requisites	Economic Theory, Macroeconomics, Microeconomics
Post-requisites	Strategic management, Anti-Crisis Management
Discipline goal	To form at students the system, professional knowledge, qualification skills and management skills of organizations of the IT industry on the basis of studying contemporary principles, methods and functions of management
Short description of course (Main sections)	<p>The course includes the following key topics in blocks:</p> <p>Module 1. Methodological fundamentals of management: Management as a kind of activity; Management History; Organization as an object of management.</p> <p>Module 2. Integration processes in management: Communication and Management; Management decisions in the management process.</p> <p>Module 3. Management functions: Strategic and tactical planning in the management system; Organization as a function of management; Leading as a function of</p>

	management; Control in the management system. Module 4. Group Dynamics and Leadership: Managing human activities and managing a group; Influence and power; Basics of Leadership and Leadership Style; Basics of Conflict Theory.
Learning outcomes	Students successfully completing the course will be able to: <ul style="list-style-type: none"> • Possess theoretical framework of management theory through categories and terminology. • Distinguish fundamental managerial concepts, skills and learn from real managers how to apply them in the practice. • Demonstrate critical and creative thinking on managerial situations. • To know management of Kazakhstan in the framework of course.

3.4 **SAP**

Description of discipline	
Code of discipline	SFT6143
Name of discipline	SAP
Number of credits (ESTS)	5
Course, semester	3,6
Department	Economics and Business
Course author (s)	Shildibekov E.Z
Prerequisites	Information-communication technologies
Postrequisites	
The aim of study of a discipline	to form a system of theoretical knowledge and practical skills to solve problems arising in project management in various spheres of economic activity, with an emphasis on projects related to the development and implementation of information systems and technologies (IT projects); to form professional competencies for effective IT project management, including the use of project management information systems; ensure the readiness to apply the acquired knowledge in the digital economy
Brief course description (main sections)	To master the academic discipline, students must know the conceptual foundations of the enterprise, be able to systematize and generalize information, develop specific proposals based on research results, use mathematical and tools to solve management problems.
Expected Learning Outcomes (knowledge, abilities, skills and competencies acquired by students)	KNOW: <ul style="list-style-type: none"> • conceptual apparatus of project management; • principles of standardization in the field of project management, the composition of international and national project management standards; • the best world and national practices included in the PMI PMBOK body of knowledge; • project management methodologies (methods of critical path, PERT analysis, cost analysis, forecasting the values of technical and economic indicators of the project, risk assessment);

	<ul style="list-style-type: none"> • architecture and functionality of IT project management information systems; • structure and typical content of an IT project; • principles of agile project management methodologies; OWN: • building a network diagram; • calculating the critical path; • resource allocation and planning; • calculation of indicators of earned value; • analysis of project risks and determination of response measures; • preparation and presentation of the project; • teamwork using agile methodology; BE ABLE TO: • analyze and optimize the work plan and the cost of the project; • draw up project documentation; <ul style="list-style-type: none"> • • apply information systems to solve practical problems of project management. KNOW: • • conceptual apparatus of project management; • • principles of standardization in the field of project management, the composition of international and national project management standards; • • the best world and national practices included in the PMI PMBOK body of knowledge; • • project management methodologies (methods of critical path, PERT analysis, cost analysis, forecasting the values of technical and economic indicators of the project, risk assessment); • • architecture and functionality of IT project management information systems; • • structure and typical content of an IT project; • • principles of agile project management methodologies; • OWN: • • building a network diagram; • • calculating the critical path; • • resource allocation and planning; • • calculation of indicators of earned value; • • analysis of project risks and determination of response measures; • • preparation and presentation of the project; • • teamwork using agile methodology; • BE ABLE TO: • • analyze and optimize the work plan and the cost of the project; • • draw up project documentation; • • apply information systems to solve practical problems of project management.
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3.5 Project management

Description of elective course	
Subject code	MGT6703

Course name	Project management
Number of credits	5
Course, semester	3,6
Name of Department	Economics and Business
Course author	
Prerequisites	Management
Postrequisites	-
Course objectives	Identify the key activities in the project life cycle. Recognize the components of a project charter and how to be appropriately scale them based on the size of a project. Develop an action plan for continuing to expand project management knowledge.
Course description	This course examines activities related to project planning and estimating project scope and schedule. It 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.
Learning outcomes	Understand the role of the “triple constraint” in project management and apply it in determining project scope. Keep projects on track by managing project risks and effectively using a communication plan. Capture valuable project lessons and use them to define and improve project management practices within your organization.

3.6 Management accounting

Description of discipline	
Code of discipline	ACC6703
Name of discipline	Management Accounting
Number of credits (ECTS)	5
Course, semester	4,7
Department	Economy and Business
Course author (s)	
Prerequisites	Financial accounting
Postrequisites	
The aim of study of a discipline	The purpose of teaching the discipline is the formation of undergraduates' knowledge in the field of modern areas of management accounting and practical skills of their application in professional activities. To achieve this goal in the course of mastering the course, it is necessary to solve the following problems: formation of knowledge about the content of management accounting, its purpose and principles of formation;
Brief course description (main sections)	In the structure of the course, three interrelated blocks can be distinguished: the implementation of strategic management accounting, the use of modern calculation systems and the principles of transfer pricing. The main topics are: the behavior of costs depending on the strategic type of economic activity and the way of its implementation, the decision-making support system, the information provision system, the system

	for changing the methods of providing information, the selection of performance indicators for management at all levels, consistent with the business strategy
Expected Learning Outcomes (knowledge, abilities, skills and competencies acquired by students)	<p>As a result of mastering the discipline, the student:</p> <p>1. should know: a) know:</p> <ul style="list-style-type: none"> • the essence, features, criteria and general principles of building strategic management accounting; - the procedure for generating information about the state and use of the organization's resources in order to manage business processes and performance results; - a system for collecting, processing and preparing information for various departments of the organization's management apparatus; - the composition and content of the reporting of internal divisions of the organization; - problems solved by accountants-analysts in the process of generating information useful for making tactical and strategic management decisions. <p>2. must be able to: b) be able to:</p> <ul style="list-style-type: none"> • use knowledge about the principles of management accounting to systematize data on the costs of production and sales, estimate the cost of production and determine profit; - to solve the problems of evaluating the efficiency of production and sales of new types of products, changes in the volume and range of products (works, services), capital investments and investments in production stocks, cost management using various types of estimates and budgeting systems <p>3. must own: c) own:</p> <ul style="list-style-type: none"> • information prepared by management accounting; - nuances of the relationship between financial and management accounting in the process of preparing information for users;

3.7 International Business

Description of discipline	
Code of discipline	MGT6714
Name of discipline	International Business
Number of credits (ECTS)	5
Course, semester	4,7
Department	Economy and Business
Course author (s)	Shildibekov E.Zh
Prerequisites	Management
Postrequisites	
The aim of study of a discipline	The aim of the course is to provide students with knowledge about the nature of industrial engineering inside and outside the company
Brief course description (main sections)	<p>This course provides an overview of the theories of international business with a particular focus on practical aspects of international trade and management. Subject areas covered include:</p> <p>measuring the impact of tariffs on the welfare of society, the evolution of the monetary system, the role leading international institutions in the field of economic activity and management aspects at the international</p>

	level.
Expected Learning Outcomes (knowledge, abilities, skills and competencies acquired by students)	Students who successfully complete the course will be able to: - understand the main categories of international business and the methods used for them analysis; - know quantitative research on such indicators as: GDP, CPI and the impact of tariffs; - be able to assess the current role and status of international organizations (UN, WTO, IMF, and so on) and assess the capabilities of informal organizations (Greenpeace, Occupy Wall-street, etc.).

3. 8 Taxes and taxation

Description of elective course	
Subject code	FIN6714
Course name	Taxes and taxation
Number of credits	5
Course, semester	4,7
Name of Department	Economics and Business
Course author	
Prerequisites	Finance
Postrequisites	-
Course objectives	The aim of the course "Taxes and taxation" is to study the composition, structure and functions of the main taxes paid by business entities on the territory of the Republic of Kazakhstan, the methods of calculation and order of payment to the budget.
Course description	Discipline provides a systematic picture of the theoretical and methodological basis of the tax system of the Republic of Kazakhstan, formation and changes in its structure, all types of taxes and fees paid by enterprises and organizations on the territory of the Republic of Kazakhstan.
Learning outcomes	<ul style="list-style-type: none"> • the ability to understand that taxes - is not only a historical phenomenon that existed in all societies, but also objectively necessary phenomenon in any society, ensuring its development and improvement; to understand the driving forces and the laws of the historical process; the place and role of their country in the history of mankind and in the world today; • the ability to use a standard legal documents in their activities; • awareness of the social significance of their future profession, related to taxation of businesses and individuals; • understanding of the economic nature and role of taxes in the community, as well as knowledge of the factors in the formation and principles of the tax system of the state; elements of the legal structure of Kazakhstan taxes and fees;

	<ul style="list-style-type: none"> • knowledge of the rights, duties and responsibilities of the participants of tax relations; • The ability to perform professional duties on the calculation of the tax base and taxes based on current tax law and other legal acts on taxes and duties. • the ability to collect and analyze the raw data needed to calculate the tax and economic indicators characterizing the activity of economic entities; • As a result of the discipline and the solution of practical tasks and case studies the student should be able on the basis of standard operating procedures and regulatory framework to calculate taxes and tax burden, characterizing the activities of economic entities.
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3.9 1C Accounting

Description of discipline	
Code of discipline	FIN6715
Name of discipline	1C Accounting
Number of credits (ECTS)	5
Course, semester	4,7
Department	Economy and Business
Course author (s)	Shildibekov E.Zh
Prerequisites	Finance
Postrequisites	
The aim of study of a discipline	The course is a series of lectures and laboratory-practical classes that allow you to quickly master the techniques of developing and modifying applied solutions on the 1C: Enterprise 8.1 platform for managing a specific enterprise ("Enterprise Accounting", "Manufacturing Enterprise Management", "Salary and Personnel").
Brief course description (main sections)	The course is a series of lectures and laboratory-practical classes that allow you to quickly master the techniques of developing and modifying applied solutions on the 1C: Enterprise 8.1 platform for managing a specific enterprise ("Enterprise Accounting", "Manufacturing Enterprise Management", "Salary and Personnel").
Expected Learning Outcomes (knowledge, abilities, skills and competencies acquired by students)	<p>As a result of mastering the discipline, the student:</p> <p>know:</p> <ul style="list-style-type: none"> - features of the "1C: Enterprise" system for creating information systems; - built-in programming language of the "1C: Enterprise" system; - principles of development of configuration elements of the 1C: Enterprise system. <p>be able to: - develop your own configuration for accounting and management accounting at the enterprise, using the main components of the configurator (reference books, documents, enumerations); - organize the storage of operational information in all kinds of registers: information registers, accumulation registers, accounting registers; - to receive programmatically information from the database and present it to the user in a convenient form.</p>

	own: - skills of work in the standard configuration "Enterprise Accounting" of the "1C: Enterprise" system; - the skills of using various types of constructors that are available in the system.
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3. 10 Introduction to FinTech

Description of elective course	
Subject code	FIN6716
Course name	Introduction to FinTech
Number of credits	5
Course, semester	4,7
Name of Department	Economics and Business
Course author	
Prerequisites	Corporate Finance, Financial markets and intermediaries
Postrequisites	
Course objectives	This is a practical course with a heavy emphasis on latest industry trends and industry practices rather than theoretical concepts.
Course description	This course will provide students with the latest empowering and practical knowledge on FinTech enabling them to understand some of the FinTech changes taking place currently in the financial services industry and, most importantly, the trends that will impact the industry in the future.
Learning outcomes	<ol style="list-style-type: none"> 1. The range of financial services and products in the marketplace. 2. New services and products, often mobile and disruptive. 3. The importance of the dominant role of Millennials and their unique preferences. 4. Technology, as it relates to new Fintech. 5. Regulation of financial markets, with relevance to new Fintech. 6. How new startups are financed. 7. Social and distributional issues around new Fintech. 8. Possible future developments.

3. 11 Introduction to Programming

Description of elective course	
Subject code	SFT6156

Course name	Introduction to Programming
Number of credits	5
Course, semester	4,7
Name of Department	
Course author	Pachshenko Galina Nikolaevna
Prerequisites	
Postrequisites	
Course objectives	Learning of algorithms, data structures and creating the programs to solve practical problems using the language C++.
Course description	Training the specialists, capable to use MS PowerBI programming technologies for the solution business data analysis tasks. Description the basic MS PowerBI concepts, data files, filters, aggregation of statistical data: timeseries, slicers, combining charts, interactive BI reports, customer segmentation, bins and distributions, clustering. Explanation of MS Powerbi dashboard concepts and feeding real-time data via streaming api.
Learning outcomes	<ol style="list-style-type: none"> 1. To list data structures, operators and basic algorithmic construction in C++. 2. To develop block diagrams of various algorithms using general principles of algorithms construction 3. To identify the types of variables for solving the practical tasks. 4. To learn and being able to use major programming patterns. 5. To solve practical tasks by creating programs on C++ in good style. 6. To compare and contrast the different ways of solving a problem after testing the program. 7. To modify and rewrite the created program using the analysis.

3. 12 Data Base

Description of elective course	
Subject code	SFT6142
Course name	Data Base
Number of credits	5
Course, semester	4,8
Name of Department	IS
Course author	Muratova KN
Prerequisites	ICT
Postrequisites	
Course objectives	The course goal is to introduce students to database systems in Information Systems comprehensively and expand their knowledge on working with PGAdmin developer.
Course description	This course introduces students to database systems. The course explains what a database system is, and then proceeds for the greater part of the learning material to explore relational database systems—databases designed according to the relational (or tabular) model. From data abstraction, the course then turns to transaction management, with some additional material on improving query performance. Finally, there is an introduction of up-to-date trends in database system design,

	<p>which also locates recent developments in the larger history of data storage technology.</p> <p>he objectives of the course are:</p> <p>To explain database management software to develop data-intensive applications</p> <p>To introduce PGAdmin</p> <p>To explain PGAdmin development environments;</p> <p>To demonstrate hands-on practice in order to reinforce the fundamental concept;</p> <p>To provide practice on querying on PGADmin database;</p> <p>To describe Built-in SQL functions;</p>
Learning outcomes	<p>Students successfully completing the course will be able to:</p> <p>To list data structures and operators in SQL.</p> <p>To create diagrams and data models for projects</p> <p>To design and develop normalization for tables</p> <p>To solve practical tasks on SQL</p> <p>To compare and contrast the different ways of solving problems.</p> <p>To modify and rewrite the created program using the analysis.</p> <p>To explain the constituted program documentation.</p>

3. 13 Introduction to Python and libraries to data analysis and processing (BDA-1)

Description of elective course	
Subject code	SFT6132
Course name	Introduction to Python and libraries to data analysis and processing (BDA-1)
Number of credits	5
Course, semester	4,8
Name of Department	Information systems
Course author	Moldagulova Aiman Nikolayevna
Prerequisites	Object-oriented programming
Postrequisites	Big Data ingestion /Storage (BDA-2)
Course objectives	This course aims to teach one of the fastest growing and popular Python programming languages.
Course description	The basis of such important concepts as Object-oriented programming, functional programming, event programs (GUI applications). Python is freely available for many platforms (such as Unix, Windows, Linux, RiscOS, MAC, Sun), and programs written on it are usually portable on different platforms without any changes.

	This makes it possible to use any available hardware platform for learning the language.
Learning outcomes	<ol style="list-style-type: none">1. development of algorithms and models for applications in the Python programming language;2. development of information, functional and software in the Python programming language; programming in an integrated environment Object-oriented programming in Python.