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Registration data

Application type	Updating of EP in the Registry	Status	Approved
Date of getting the status	29.08.2025 17:41	Sent to rework by the expert (count)	0
Sender	6772	Registration number	6B06100154

[Educational program passp](#)

Higher and Postgraduate Educational Programs

☐ Project EP ☐ Participant of project EP

Field of education *

6B06 Information and Communication technologies

☐ Interdisciplinary EP

Direction of personnel training *

6B061 Information and Communication technologies

Group of educational programs *

B057 Information technologies

Educational program *

6B06102 Information systems

Curriculum *

Информационные системы (бакалавриат)

Kazakh language

Russian language

English language

EP purpose *

The training of qualified specialists who know high-performance methods of information processing and who know knowledge in the field of information systems with practical skills and leadership qualities that meet modern requirements of specialists with higher education

EP type *

Acting EP

Level on NQF *

6

Level on SQF *

6

EP distinctive features

No

Degree to be conferred *

Bachelor

Period of study *

4

Volume of the credits *

240

Language of education *



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Professional Standard for EP *

Exists

 Add

№	Name of professional standard
1	System analysis in information and communication technologies
2	Software testing
3	System and network administration

Professional standards (career standards)

Professional standard has been used at developing EP ☒

Professional standard №1

Professional standard

Тестирование программного об

Approval year 2022

CCEA

Professions

Profession №1

Profession

Уровень по ОРК 6

Labor functions

Profession №2

Profession

Уровень по ОРК 6

Labor functions

Date of approval EP on the Academic Council *

15-04-2025



☒Existence of the annex to the license for the direction of personnel training

The license number on the direction of training *

KZ49LAM00007465

☐The training format is online

☒EP accreditation existence

Atlas of new professions *



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Regional statistics

<https://enic-kazakhstan.edu.kz/files/1744378861/rl-k-kartasy-zhet-su-oblysy.pdf> Қашықтықтан жұмыс істейтін м
кеңістіктердің жобалаушысы

The formed educational outcomes

№	Educational outcome	Code	Reflects the labor fun
1	In KazakhIn RussianIn English Кибернетика және интеллектуалды робототехникалық жүйелер мен өнеркәсіптік-зерттеу кешендерін жобалау,	ON1	
2	In KazakhIn RussianIn English Әлеуметтік және кәсіби қарым-қатынас деңгейінде шет тілдерінде еркін сөйлеу, арнайы лексика және кәсіби	ON2	
3	In KazakhIn RussianIn English Ақпараттық жүйелерді жобалау мен деректер қорын басқарудың заманауи технологияларын, әдістері мен	ON3	
4	In KazakhIn RussianIn English Құқықтық, экономикалық, кәсіпкерлік, өндірістік, экологиялық ортада, сондай-ақ қаржылық сауаттылық,	ON4	
5	In KazakhIn RussianIn English Ақпараттық жүйелерді құру және енгізу саласында отандық және шетел тәжірибелерін талдау, ақпараттық жүйелерді	ON5	
6	In KazakhIn RussianIn English Кәсіби қызметінде ақпараттық-коммуникациялық технологиялардың әртүрлі түрлерін пайдалану: ақпаратты	ON6	
7	In KazakhIn RussianIn English Программалық кешендерді құрудың ерекшеліктерінің, алгоритмдерді безендендірудің типтік әдістемелерін және	ON7	
8	In KazakhIn RussianIn English Қателерді түзету, жаңа жабдыққа бейімделу, интерфейстерді жаңарту және өнімділікті жоғарылату үшін	ON8	
9	In KazakhIn RussianIn English Математикалық және физикалық модельдерді құра алады, математикалық және физикалық есептерді қою, жоғары	ON9	
10	In KazakhIn RussianIn English Информатика, ақпараттық технологиялар, ақпараттық қауіпсіздік және деректерді қорғау саласындағы кәсіби білім	ON10	

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ЕДИНАЯ ПЛАТФОРМА
ВЫСШЕГО ОБРАЗОВАНИЯ

English

11

In Kazakh

In Russian

In English

Телекоммуникациялық желілер мен жүйелерді жоспарлау, жобалау, енгізу және пайдалану, оларды техникалық,

ON11

Data on disciplines

№	Name of discipline	Short description of discipline	Cycle	Component	Credits			
						ON1	CR	ON:
1	Methods of scientific research	The goal is to form knowledge about the principles, technologies, practical methods and techniques of conducting scientific research based on modern achievements of scientists. Forms the basic foundations of scientific culture and ethics, flexible perception of scientific texts, skills of effective application of acquired knowledge in planning and organizing research work, the ability to analyze and summarize research results.	GED	EC	5	☐		☐
2	Ilyastanu	The purpose of the discipline is to develop a deep-thinking personality with high aesthetic taste, appreciating literature, art, traditions, culture and language of the Kazakh people through a deep and comprehensive study of the works of Ilyas Zhansugurov. Forms an understanding of the importance of the works of Ilyas Zhansugurov in the development of the Kazakh literary language; skills of intellectual and creative thinking, the ability to cherish the values of national and spiritual heritage.	GED	EC	5	☐		☐
3	Fundamentals of financial literacy	The course "Fundamentals of Financial Literacy" is aimed at gaining knowledge and skills in the field of personal finance management. Also, as part of the course, students will learn how to use in practice all kinds of tools in the field of finance, save and increase savings, plan a budget competently, learn how to analyze financial information and navigate financial products to choose an adequate investment strategy	GED	EC	5	☐		☐



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4	Basics of law and anti-corruption culture	The objective is to familiarize students with the fundamental branches and institutions of law, the foundations of anti-corruption culture, as well as the patterns of emergence, development, and functioning of the state and law. The course cultivates anti-corruption awareness and a high level of theoretical knowledge concerning the primary functions of law within the state and society, its impact on the development of the rule of law and civil society, and the value of inclusion as an integral component of a just and equitable legal order. Particular emphasis is placed on fostering students' understanding of the importance of human rights for all individuals, regardless of their social, cultural, physical, or other characteristics.	GED	EC	5	☐	☐
5	Ecology and life safety basics	Purpose – the goal is to develop knowledge of the fundamentals of ecology, sustainable development, and life safety, enabling the analysis of ecological processes, the assessment of the socio-environmental consequences of anthropogenic activities, the assurance of environmental safety, and the application of methods and technologies for protection in emergency situations. Develops the ability to assess the impact of environmental factors on human health; to forecast ecological processes for planning and implementing measures aimed at enhancing life safety and ensuring environmental security; and to make informed decisions in adverse environmental and emergency situations, taking into account the potential consequences of accidents, disasters, and natural hazards within the framework of sustainable development principles.	GED	EC	5	☐	☐

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6	Economics and entrepreneurship	Objective – to familiarize students with the economic challenges of modern society, develop economic thinking, and provide knowledge of the theoretical foundations and practical skills in the field of entrepreneurship. The program is aimed at forming a comprehensive understanding of the functioning of the economy, while delivering business education focused on acquiring applied competencies in various areas of entrepreneurial activity. Special attention is given to issues of sustainable development, efficient resource use, and the implementation of lean production principles as key elements of effective and environmentally responsible business practices. The course also explores the specifics of creating and successfully managing a business, taking into account modern requirements for environmental and social responsibility in entrepreneurship.	GED	EC	5	☐	☐
7	Basics of information systems	Studies the basic models of information processes, organization of information processes at the physical and channel level, studying modern methods and models building information systems of various kinds. Forms students special knowledge in the field of building models and methods of developing information systems of various classes and purposes.	BD	UC	5	☐	☐
8	Professional terms in the field of information systems (in English)	Studies English as a necessary and sufficient level of communicative competence, which will allow to use a foreign language in various fields of official business, professional activity, in scientific and practical work, in communication with foreign partners, for self-education and other purposes.	BD	UC	5	☐	☒
9	Algorithms, data structures and programming	Discipline studies the basic concepts of the algorithm, the basic structures of the algorithms, the concept of a structural approach to the development of algorithms, the basic concepts of programming, the use of subroutines when developing programs, algorithmic languages, the assignment of an algorithmic language and the requirements for it, the concept of procedural oriented languages.	BD	UC	6	☐	☐



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10	Computational mathematics	This course is dedicated to numerical methods for solving mathematical problems using computational tools. It covers methods for approximate equation solving, interpolation, numerical integration and differentiation, solving systems of linear and nonlinear equations, as well as problems in mathematical physics. Special attention is given to algorithms, computational accuracy, and the implementation of methods using programming languages.	BD	UC	5	☐		☐
11	Fundamentals of artificial intelligence	The discipline is aimed at studying the basic concepts, methods and algorithms that underlie the creation and application of artificial intelligence. As part of this course, students will learn the theoretical foundations of machine learning, neural networks, natural language processing algorithms, and computer vision. They will also get acquainted with the ethical, social and legal aspects of the application of artificial intelligence in various areas of life.	BD	UC	5	☒	High	☐
12	Operating systems	The objective of this course is to introduce the design and implementation of operating systems. The course will begin with a brief historical overview of the evolution of operating systems over the last fifty years and then cover the major components of most operating systems. This discussion will examine the trade-offs that may be made between performance and functionality during the design and implementation of an operating system. Particular attention will be paid to the three major OS subsystems: process management (processes, threads, CPU scheduling, synchronization, and deadlocks), memory management (segmentation, paging, swapping), file systems, and operating system support for distributed systems. Knowledge of the Bash language, network management, and network security.	BD	UC	4	☐		☐
13	Innovative technologies of protecting digital information	Examines how to organize the protection of information in computer networks; means of protecting data from the damaging effects of computer viruses; basic software methods of information protection when working with computer systems and organizational measures and methods of anti-virus protection.	BD	UC	5	☐		☐



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14	Cloud databases	A course devoted to studying the principles of design, deployment, and management of databases in a cloud environment. The course covers cloud computing models (IaaS, PaaS, SaaS), cloud DBMS architecture, scalability, fault tolerance, and data security. It also covers popular cloud platforms such as Amazon Web Services (AWS), Microsoft Azure, Google Cloud, and their services for working with databases (e.g., Amazon RDS, Firebase, Azure SQL).	BD	EC	5	☐		☐
15	3D Modeling	The aim of the course is to study a graphic editor, with the help of which it is possible to model three-dimensional images of objects, as well as basic concepts of animation programs and fundamental tools, which are necessary for creating three-dimensional characters and animations. This discipline occupies an important place in the system of knowledge, forming a modern approach to creativity with the help of computer technologies.	BD	EC	5	☐		☐
16	IS innovations and new technologies	The purpose of this discipline is to study the concept of logistics system management in terms of procurement management. The relationship between the concepts of strategy management, their correct definition and interpretation significantly facilitate the work on improving the efficiency of the organization.	BD	EC	4	☒	Norm	☐
17	Information Systems Design	He studies information technologies for analyzing complex systems and designing information systems based on international standards, teaching students the principles of constructing functional and information models of systems, analyzing the results obtained, and using information design support tools.	BD	EC	4	☐		☐
18	Modeling information processes and systems	He studies information technologies for analyzing complex systems and designing information systems based on international standards, teaching students the principles of constructing functional and information models of systems, analyzing the results obtained, and using information design support tools.	BD	EC	5	☐		☐



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19	Vector and raster graphics	Provides for the theoretical study and practical development of the basics of computer graphics, the study of computer technologies for the processing of graphic information, since professional activities of a modern specialist in the field of information technology is associated with the widespread practical application of various methods of computer processing of graphic information.	BD	EC	5	☐		☐
20	Introduction to data analysis	This course focuses on all stages of solving Data Analysis problems. The course covers the basics of mathematical algorithms for data analysis so that students can choose the right tools; introduces students to methods for analyzing one-dimensional, two-dimensional and multi-dimensional data	BD	EC	5	☐		☐
21	Computational Physics	When studying this discipline, students will learn the modeling of physical phenomena and processes, the role of experiment and theory in the process of knowing nature, physical quantities, measurement errors of physical quantities, physical laws, limits of applicability of physical laws, the concept of the physical picture of the world.	BD	EC	4	☐		☐
22	General Physics	This discipline is the fundamental science of nature. Students will learn the natural science method of knowledge, its capabilities and limits of applicability. Students learn how to conduct experiments in the process of studying nature.	BD	EC	4	☐		☐
23	Project Studies	The course is aimed at developing students' ability to form independent theoretical and practical judgments, objectively evaluate scientific information, exercise freedom in scientific inquiry, and apply scientific knowledge in educational activities, including during the preparation of a thesis (final project).	BD	EC	5	☐		☐
24	Programming in high level language	A course aimed at mastering the basics of algorithmization and programming using modern high-level languages such as Python, C++, Java or others. The course covers basic language constructs, data types, operators, functions, conditions, cycles, arrays, as well as the basics of object-oriented programming. Particular attention is paid to the development of software solutions and code debugging.	BD	EC	5	☐		☐



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25	Engineering and computer graphics	The discipline includes three sections: descriptive geometry, engineering graphics and computer graphics. Descriptive geometry addresses issues about the subject and method of descriptive geometry. Engineering graphics considers issues related to design documentation, drawing design. In the section computer graphics, work in the graphics program AutoCAD is studied	BD	EC	5	☐		☐
26	Intellectual Data Mining Technologies	The course is devoted to studying the basics of data mining and machine learning. Students will be able to get an idea of the organization of the data analysis process, learn the main content of the stages of pre- and post-processing of data, and related standards. The course allows you to get acquainted with modern technologies for data mining and examples of their application to solve business problems, as well as with the basics of machine learning as one of the main modern concepts of extracting new knowledge and patterns from large amounts of data and their subsequent application in computer science. - artificial intelligence systems.	BD	EC	5	☐		☐
27	Intelligent Robotic Systems	Discipline is devoted to the basics of the theory and methodology of creating intelligent systems and robotic systems. The course outlines the basics of the theory of intelligent systems: the representation of knowledge, methods for finding solutions. The methodology and examples of creating expert systems are given. The basics of the theory of image recognition and image recognition systems, communication with a computer in a natural language and speech communication systems are considered.	BD	EC	5	☒	Norm	☐
28	Mathematical and computer modeling	The discipline examines the main classes of models and modeling methods, principles of building models of information processes, methods of formalization, algorithmization and implementation of models using modern computer tools; methods of conducting computational experiments using simulation techniques.	BD	EC	5	☐		☐

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	Modern mobile development technologies	A discipline aimed at studying the principles and tools for creating mobile applications for Android and iOS platforms. The course covers modern programming languages (Dart, Swift), architectural approaches and methods for optimizing mobile applications. Particular attention is paid to the user interface, interaction with the server, security and publishing applications in marketplaces	BD	EC	5	☐	☐
30	Programming for mobile applications	A course that studies the fundamentals of software development for mobile devices on the Android and iOS platforms. The course covers user interface design, event handling, working with databases, interaction with external services, and the basics of publishing applications. Students become familiar with programming languages (Java, Kotlin, Swift) and modern development tools (Android Studio, Xcode, Flutter).	BD	EC	5	☐	☐
31	Programming technology	When studying the discipline, students will acquire the skills to develop complex programs using modern tools for describing and supporting projects at an abstract level, master modern technologies for creating programs in a procedural-oriented language using object-oriented programming methodology.	BD	EC	5	☐	☐
32	Digital animation technology	Introduces the student with basic digital technologies necessary for the implementation of projects in various design directions. Forms initial skills of using application programs in the field of raster, vector and 3D graphics; animations; video and audio editing; web design, presentation graphics, etc.	BD	EC	5	☐	☐
33	Big Data	A discipline aimed at studying methods for storing, processing and analyzing large volumes of data that cannot be processed by traditional means. The course covers the features of working with structured and unstructured data, the basics of distributed computing, Hadoop, Spark technologies, NoSQL databases (for example, MongoDB, Cassandra), as well as data visualization and analysis tools. Particular attention is paid to the practical application of Big Data in business, science and industry.	BD	EC	5	☐	☐

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34	Development of electronic courses	The discipline is aimed at studying the methods of preparation and use in the educational process of electronic courses; technologies of collective creation and sharing of electronic documents and audio-visual materials for their application in the educational process and scientific research.	BD	EC	5	☐		☐
35	Programming in the ARDUINO environment	The purpose of this discipline is to gain knowledge and skills in the field of programming micro-controllers. System analysis of the applied field, formalization of solutions to applied problems and processes of information systems; development of projects for automation and informatization of applied processes and creation of information systems in applied fields; execution of works on creation, modification, implementation and maintenance of information systems and management of these works.	BD	EC	5	☒	High	☐
36	ERP Fundamentals	The objective of the course is to study the following sections: Brief history of ERP. What is an ERP system. The role of an ERP system. The concept of enterprise resource planning systems. The concept of the next generation ERP-II. What an ERP system can do. Functions of an ERP system. The main purpose of an ERP system. Scope of application. Characteristics of ERP systems. Choosing an ERP system. ERP system architecture. Classification of ERP systems. ERP system market analysis. Introduction. New trends: ERP system rental.	BD	EC	4	☐		☐
37	PL/SQL programming	The goal of the course is to learn basic procedural/structured query language, routines, query section and syntax, DML, advanced DML, and scripting. Starting with a basic outline of what PL/SQL is, students will establish a foundation for expanding their knowledge by learning about data types, flow control, errors, and more. You will explore strings, numbers, booleans, and arrays.	BD	EC	4	☐		☐
38	Databases in information systems	Discipline will introduce students to the basics of database design methodology: conceptual, logical and physical design using the example of hierarchical, network and relational databases. Students will learn the basics of description languages, database manipulation, and query creation languages. Will have an idea of the architecture, the main approaches to the design and areas of application of database systems.	PD	UC	6	☐		☐



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39	Computer networks	Will acquaint with technologies of integration of local networks in a global network the Internet and data transmission in a global network; functional capabilities of communication equipment and technologies for their implementation; means of analyzing traffic in networks and methods for its minimization; basic design of local area networks and their integration into global networks.	PD	UC	5	☐		☐
40	Computer Systems Architecture	Will Acquaint with the basic concepts and basic principles of building architectures of computing systems; types of computing systems and their architectural features; the organization and principles of operation of the basic logical blocks of computer systems; information processing at all levels of computer architectures.	PD	UC	5	☐		☐
41	Mobile application development	Discipline introduces students to the basic principles of developing applications for the Android and IOS operating systems and the technology of creating mobile applications using the Java and C # languages through Android and IOS.	PD	UC	6	☐		☐
42	Object-oriented programming	The purpose of the discipline is to prepare students for professional software development using an object-oriented approach. The training includes learning and applying the principles of encapsulation, inheritance, and polymorphism, as well as creating classes, client applets, and standalone applications based on real-world requirements from customers and employers.	PD	UC	5	☐		☐
43	WEB- technologies	Teaches networking skills with Web resources and Web services; forms ideas about the structure and principles of functioning and development of modern Web-resources; introduces the main methods of modern Web-technologies in professional activities, as well as decision support tools and the possibilities of their application in the tasks of managing information resources of an enterprise.	PD	UC	6	☐		☐



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44	Fundamentals of Cloud technologies	As a result of mastering the discipline, the student should be able to: know the basic principles and approaches of system analysis and design, allowing to study complex information systems; the ability to apply the acquired knowledge for system analysis of business processes; mastery of methods of applying modern tools of system analysis and design of business processes	PD	EC	5	☐	☐
45	Multimedia technologies	The aim of the course is to study the following fundamentals of 3D modeling: multimedia technology tools; stages and technology of creating multimedia technology products; designing multimedia technology software tools; configuration of multimedia technology hardware tools; implementation of static and dynamic processes on multimedia tools.	PD	EC	5	☐	☐
46	Development of interactive multimedia applications	During the development of the course “Development of interactive multimedia applications”, students receive general information about the basic elements of multimedia; a set of requirements for the characteristics of hardware and multimedia tools; stages of multimedia project development; tools for authoring multimedia systems; protocols and specifications used in Web applications; languages and tools for developing dynamic Web applications	PD	EC	6	☐	☐
47	Cryptography and data security	The course covers the basic principles of cryptography, encryption methods, digital signatures, hash functions, and modern technologies for ensuring data security in computer and network systems. Particular attention is paid to the practical application of security algorithms in real information systems.	PD	EC	5	☐	☐

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48	Blockchain Technologies	The aim of the course is to study the mathematical algorithm of Blockchain. Blockchain is a mathematical algorithm that allows secure and private data exchange via peer-to-peer networks. The main idea of blockchain technology is a chain of blocks with information about each transaction, which is stored in each unit of the computer network. Blockchain provides effective and reliable data protection, transparent and protected from outside interference exchange of information. The course covers a number of mathematical methods of the elliptic curve family and methods for creating software for blockchain systems in Java, Python. The course will introduce students to the basics of blockchain on various platforms.	PD	EC	5	☐	☐
49	IT - infrastructure	This course focuses on information technology infrastructure in a business environment, including internetworking and distributed processing. Topics covered include business requirements for distributed systems, system architecture models (client/server; distributed processing, etc.). Key network models and technologies, security issues related to architecture, design and technology, network configuration and management techniques.	PD	EC	4	☐	☐
50	Development of web application based on the Spring Framework	This course prepares students to use frameworks that have two main functions: work on the server side (backend) and work on the client side (frontend). They are prepared to develop Frontend frameworks related to the external part of the application, responsible for the appearance of the application. And the development of Backend, which is responsible for the internal structure of the application.	PD	EC	6	☐	☐
51	Development of web and multimedia applications	The course includes the study of technologies and tools necessary to create audio and video materials, 2D and 3D graphics, animation, interactive applications and games. Upon completion of the program, students will be able to develop and implement a multimedia project from idea to implementation, and also have the opportunity to find work as multimedia specialists in various companies developing websites, mobile applications, games and other multimedia products	PD	EC	6	☐	☐

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52	WEB programming	The course continues web development using PHP, JavaScript and other web technologies to program web information systems. The course introduces advanced web design techniques. Topics include customer expectations, advanced markup language, multimedia technologies, usability and accessibility, and web design evaluation methods.	PD	EC	6	☐	☐
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EO attainability coefficient: 77,62 %

	State	Status assignment date and time	General expert op
1	Expertise	29.08.2025 17:41	

Basis for updating of EP *

Были добавлены новые дисциплины: "Вычислительная математика", "Объектно-ориентированное программ исследование", "Основы ERP", "Инновации ИС и новые технологии", "Операционные системы", "Технология "Программирование на языке высокого уровня", "Программирование на PL/SQL", "3D Моделирование", "Пр