

ТҰРАН-АСТАНА» УНИВЕРСИТЕТІ



БЕКІТІЛДІ/УТВЕРЖДЕН/APPROVED
"Тұран-Астана" университеті академикалық
кеңес шешімімен

Решением Академического совета
Университета "Тұран-Астана"
The Academic Council of "Turan-Astana"
University

от/dated "___" "_____ 2023 ж./г./ү.

Хаттама/Протокол/Protocol №___

Академикалық кеңес төрайымы
Председатель академического совета
Academic Council Chairman

_____ Г.Ә. Жапарова/G. A. Japarova

БАКАЛАВРИАТ/БАКАЛАВРИАТ/BACHELOR'S PROGRAM

6B06101-«АҚПАРАТТЫҚ ЖҮЙЕЛЕР»
БІЛІМ БЕРУ БАҒДАРЛАМАСЫ

ОБРАЗОВАТЕЛЬНАЯ ПРОГРАММА
6B06101-«ИНФОРМАЦИОННЫЕ СИСТЕМЫ»

EDUCATIONAL PROGRAM
6B06101-«INFORMATION SYSTEMS»

күндізгі оқу нысаны/очная форма обучения/full-time study form
оқу мерзімі/срок обучения/term of study – 4 years
түскен жылы 2023/прием 2023 года/admission 2023

АСТАНА, 2023

SECTION 1. PASSPORT OF THE EDUCATIONAL PROGRAM 6B06101-«INFORMATION SYSTEMS»

(Admission-2023 y.)

Developed on the basis of the State Compulsory Standard of Higher Education and Postgraduate Education dated July 20, 2022 No. 2 (as amended and supplemented), Rules for organizing the educational process on credit technology of education dated October 12, 2018 No. 563 (as amended and supplemented), Professional Standard " Information and Communication Technologies", approved by the order of the Acting Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" No. 222 dated 05.12.2022.

- 1. School:** Business and information technologies
- 2. Name and code of the EP:** 6B06101-«Information systems»
- 3. A view-OP:** the current
- 4. The learning curve:**
 1. «Design of information systems»
 2. «Administration of databases of information systems»

5. The purpose of the educational program: training of highly qualified specialists in the design, creation and administration of information systems with knowledge in the field of information, mathematical, software and technical support of information systems that allow them to apply different approaches to solving complex management problems in their professional activities.

- 6. The levels on the NQF:** level 6
Orc level: 6

7. List of qualifications and positions: A graduate of bachelor of educational program 6B06101-«Information systems» is awarded the degree of Bachelor of Science in Information and Communication Technologies under the educational programme «6B06101-Information systems».

Bachelors of this profile are designed for economic, managerial, entrepreneurial, commercial and research work in organizations of different forms of ownership and in various fields of activity.

Qualifications and positions of graduates of EP 6B06101-«Information systems» are determined in accordance with the qualification directory of positions, managers, specialists and other employees, professional standard approved by the order of the Deputy Chairman of the National chamber of entrepreneurs of the Republic of Kazakhstan "Atameken" No. 171 dated June 17, 2017:

- Software engineer (programmer);
- Programmer (webmaster, web designer);
- Specialist in information security in the key systems of information infrastructure;
- Information security specialist;
- Technician of the computing (information and computing) center;
- Software technician;
- Database administrator;
- Specialist in creating and managing information resources;
- System analyst.

8 Qualification characteristics of the graduate:

8.1 Scope of professional activities

The spheres of professional activity are state bodies, institutions and organizations of all forms of ownership, industry, research institutions, culture, health care, agriculture, public administration.

8.2 Objects of professional activity

The objects of professional activity are enterprises and organizations of various forms of ownership, developing, implementing and operating information systems in various fields of human activity.

- computer systems of information processing and management;
- CAD system;
- software of information systems (programs, software systems and systems).

8.3 Subject of professional activity

The subjects of professional activity of graduates are mathematical, information, software, linguistic, technical, organizational and legal support of information systems, including technology design, development, implementation, maintenance and operation.

8.4 Types of professional activity

Bachelors of the educational program 6B06101-«Information systems» can perform the following professional activities:

- design and engineering;
- industrial-technological;
- experimental research;
- organizational and managerial.

9.Key competence

9.1. General core competencies:

9.1.1 in the field of native and foreign languages:

Know: the technology of communication, a communication strategy (**KC1**).

Be able to: build a constructive dialogue, communication in a multicultural, multiethnic and multi-confessional society (**KC2**).

Possess skills: competent and developed speech, native and foreign languages (**KC3**).

-in the field of fundamental mathematical, natural science and technical training:

Know: fundamental mathematical, natural science and technical disciplines that contribute to the formation of a highly educated person with a broad outlook and a culture of thinking (**KC4**).

Be able to: formulate and solve problems, to analyze; to prove the results obtained; apply formulas, basic laws of natural-science disciplines in professional activity (**KC5**).

Possess skills: apply methods of analysis, synthesis to solve applied problems, apply methods of mathematical analysis and modeling, theoretical and experimental research (**KC6**).

-in the field of computer technology:

Know: basic concepts, principles, theories and facts related to computer science; basic information technology (**KC7**).

Be able to: apply and use information technology in professional activities (**KC8**).

Possess skills: programming using modern tools (**KC9**).

9.2 General competences:

-in the field of social and cultural activities:

Know: ethical, spiritual and cultural values, basic laws and forms of regulation of social behavior, sociological approaches to the individual, traditions and culture of the peoples of Kazakhstan, trends in the development of society (**KC10**).

Be able to: adequately navigate in different social situations, to think creatively, to be tolerant to traditions, culture of other peoples of the world, to have an active life position (**KC11**).

Possess skills: methods of socio-cultural research, analysis of problem situations (**KC12**).

-in the field of training activities:

Know: fundamental of a discipline of the emerging science of psychology (**KC13**).

Be able to: use the system of categories and methods necessary to solve typical problems in various fields of professional practice, apply theoretical and experimental research, basic methods of mathematical analysis and modeling for processing data obtained in solving various professional problems, to carry out bibliographic and information retrieval work, followed by the use of data in solving professional problems and design of scientific articles, reports, conclusions, etc. **(KC14)**.

Possess skills: perception of the personality of another, empathy, establishment of trusting contact and dialogue, persuasion and support of people; finding organizational and managerial decisions in non-standard situations and readiness to take responsibility for them, effective consolidation of theoretical knowledge during the passage of educational and industrial practices, conscious choice of disciplines of specializations, analysis of their activities and the ability to apply methods of emotional and cognitive regulation (to optimize) their own activities and mental state **(KC15)**.

- in the field of business and economic activity:

Know: fundamentals of Economics and entrepreneurship; the role of entrepreneurial risks in the business, the value of the public sector in the economy and entrepreneurship; the main provisions of the current legislation of the RK; the critical success factors of the project, documentation project management, standard tools of the decomposition of the project work; a framework for assessing the effectiveness of the developed innovative processes, principles of methodology design and research activities **(KK16)**.

Be able to: identify methods of state regulation of the economy, apply the principles and norms governing business and government relations; use methods of risk management in business; navigate the current legislation; develop documents for project management, risk management plan; apply the knowledge to solve practical problems in innovative development; determine the goals and objectives of project and research work **(CC17)**.

To possess skills: use of the received knowledge on a subject in business activity; the analysis of economic and business relations and risks; use of legal norms for achievement of positive results in economy; management of innovative projects in development of the company, reading of scientific, analytical, statistical reports and methods of an assessment of innovative development; registration of theoretical and experimental results of research and project work **(KK18)**.

9.3 Professional (special) key competences:

Know:

-trends and prospects of modern information technologies **(KC19)**.

-on the use of packages and libraries in programming, modern algorithmic languages, their applications and features **(KC20)**

Know:

- the main classes of models and modeling methods, principles of construction of models of processes, methods of formalization, algorithmization and implementation of models of computer systems **(KC21)**.

-stages of the database design process **(KC22)**.

-methods of protection of databases **(KC23)**.

-methods of analysis and evaluation of the development, implementation and operation of the information system **(KC24)**.

Be able to:

-use system concepts to understand and identify problems **(KC25)**.

-program using modern tools **(KC26)**.

-apply methods and tools for the development of algorithms and programs, structural programming techniques, methods of recording the algorithm in a high-level language, methods of debugging, testing and documentation of programs **(KC27)**.

-analyze own and foreign experience in the development and implementation of information systems **(KC28)**.

Possess skills: selection of architecture and hardware integration of information systems (KC29).

Be competent in matters:

-selection of methods for analysis and evaluation of the development, implementation and operation of the information system (KC30).

- development of components of software systems and databases, the use of modern tools and programming technologies (KC31).

-selection of methods and technologies for project management of creation and implementation of information systems in the business activities of organizations (KC32).

10. Learning outcome:

According to Dublin Descriptors the following learning outcomes are generated:

| Dublin descriptors | Learning outcome: |
|--|---|
| 1. Demonstrate knowledge and understanding in the field of study based on advanced knowledge of the field | 1. Know and understand the importance of information systems in solving professional problems, using a wide range of IT technologies 2. apply knowledge of modern IT tools based on knowledge of global trends in the development of information technology |
| 2. Apply knowledge and understanding on a professional level, formulate arguments and solve problems of the studied area | 3. Know and understand the technologies for designing and creating information systems and their elements in specific areas |
| 3. Collect and interpret information to form judgments based on social, ethical and scientific considerations | 4. Have the ability to work with hardware and software-hardware complexes of information systems 5. be able to choose technologies, software tools and computer equipment in organizing the process of developing and researching objects of professional activity |
| 4. Communicate information, ideas, problems and solutions to both professionals and non-professionals | 6. Ability to program in high-level languages that are in great demand in the IT field 7. be aware of the social significance of the profession of an IT specialist, be highly motivated to perform their professional activities |
| 5. Learning skills necessary for independent continuation of further education in the field of study | 8. Have a concept and apply the basic concepts, principles, theories associated with advanced scientific developments in the field of information systems. |
| 6. Know the methods of scientific research and academic writing and apply them in the field of study | 9. Search, process, store, transfer and analyze the necessary information from various sources, presenting it in the required format, using computer technology |
| 7. Apply knowledge and understanding of facts, phenomena, theories and | 10. Have the ability to acquire new, expand and deepen the acquired knowledge, skills and competencies necessary for implementation and application in all areas, including professional |

| | |
|--|---|
| complex relationships between them in the field of study | |
| 8. Understand the importance of the principles and culture of academic integrity | 11. Be guided by the principles of a culture of academic integrity, the values of a democratic society, be able to analyze current problems of society, feel business and ethical, professional responsibility, be able to take risks within the framework of advanced ideas in society, 12. Have creative design skills, be able to act as a person with an established physical culture and internal culture |

General information about the educational program is given in the form "Passport of the educational program" (Table 1).

Table 1 - Passport of the educational program

| № | Field name | Note |
|----------|---|--|
| 1 | Registration number | - |
| 2 | Education area code and classification | 6B061 Information and communication technologies |
| 3 | Code and classification of training areas | 6B061 Information and communication technologies |
| 4 | Group of educational programs | B057 Information technology |
| 5 | Name of educational program | Information systems |
| 6 | Look EP | Current EP |
| 7 | Arm of EP | Training of highly qualified specialists in computer technology and software, with fundamental knowledge of information technology, capable of applying conceptual knowledge and engineering skills for the design, software development of computer technology and information systems. |
| 8 | Level by ISCE | 0610 |
| 9 | Level by NQF | 6 level |
| 10 | Level by IQF | 6 level |
| 11 | Distinctive features of EP | No |
| | The university partner (JEP) | - |
| | The university partner (DDEP) | - |
| 12 | List of competences | <i>Paragraph 2.1</i> |
| 13 | Learning outcome | |
| 14 | Form of training | Full time |
| 15 | Language of instruction | Russian\kazakh |
| 16 | Volume of credits | 240 |
| 17 | Awarded degree | Bachelor of Science in Information and Communication Technologies under the educational programme «6B06101-Information systems» |
| 18 | Availability of an Annex to | Annexes to the state license №0137367 from 29.12.2014 |

| | | |
|----|---|--|
| | the license for the direction of training | year (№009 from 15.03.2009 year) |
| 19 | Availability of accreditation of OP | Yes Certificate of specialized accreditation registration number: SA-A №0161/2, 10.06.2019 y. |
| | The name of the accreditation body | IAQAE |
| | The period of validity of accreditation | 10.06.2019 y.-07.06.2024 y. |
| 20 | Information about disciplines | <i>Paragraph 2.2</i> |
| 21 | Learning outcome | <ol style="list-style-type: none"> 1. Know and understand the importance of information systems in solving professional problems, using a wide range of IT technologies 2. apply knowledge of modern IT tools based on knowledge of global trends in the development of information technology 3. Know and understand the technologies for designing and creating information systems and their elements in specific areas 4. Have the ability to work with hardware and software-hardware complexes of information systems 5. be able to choose technologies, software tools and computer equipment in organizing the process of developing and researching objects of professional activity 6. Ability to program in high-level languages that are in great demand in the IT field 7. be aware of the social significance of the profession of an IT specialist, be highly motivated to perform their professional activities 8. Have a concept and apply the basic concepts, principles, theories associated with advanced scientific developments in the field of information systems. 9. Search, process, store, transfer and analyze the necessary information from various sources, presenting it in the required format, using computer technology 10. Have the ability to acquire new, expand and deepen the acquired knowledge, skills and competencies necessary for implementation and application in all areas, including professional 11. Be guided by the principles of a culture of academic integrity, the values of a democratic society, be able to analyze current problems of society, feel business and ethical, professional responsibility, be able to take risks within the framework of advanced ideas in society, 12. Have creative design skills, be able to act as a person with an established physical culture and internal culture |