Ф.7.02-10

MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE REPUBLIC OF KAZAKHSTAN

M.O. Auezov SOUTH KAZAKHSTAN UNIVERSITY

«APPROVED»
Chairman of the Board-Rector
_____ D.J. Ahmed-Zaki
«27» 10 2025

Educational program

6B06110 – Computer science

Registration number	6B06100028
Code and Classification of Education	6M06 Information and communication technologies
Code and Classification of Areas of Training	6M061 Information and communication technologies
Group of educational programs (EP)	B057 Information technologies
Type of EP	Acting EP
ISCE level	6
NQF level	6
IQF level	6
Language learning	English
The complexity of the EP	285 credits
Distinctive features of EP	- Double-degree
Partner University (JEP)	- Arizona State University (USA)
University Partner (DDEP)	-

Shymkent, 2025

Developers:

Full Name	Position	Signature
Shomanbayeva M.T.	Associate Professor	
Zhaidakbayeva L.K.	Associate Professor	
Karatayev G.S.	Lecturer of the Department of Informatics	
Adilbekova Duriya	Student of group EP-25-7a	
Kuralbai Asqar	Student of group EP-25-7a	
Nurmukhanbetova G.K.	Director of «KaztilDamu» LLP, The educational center, Cand.ped.sc.	
Arynbekova A.S.	Director of the South Kazakhstan College of Humanities and Economics	
Utegenov M.K.	Director of the Higher College of New Technologies named after M. Utebayev	
Azhidinov A.S.	Rector of "Central Asian Innovation University" LLP, cand.tech.sc., Professor.	
Suleymenova L.A.	Head of the Department "Informatics" of the O.Zhanibekov South Kazakhstan Pedagogical University, cand.tech.sc.	

The EP was considered at a meeting of the Academic Quality Committee of the Higher School of Natural Sciences and Pedagogy.

Minutes # 6 « 17 » 3 2025 y.

Chairman of the Committee _____ Tursynbayev A.Z.

The EP was considered and recommended for approval at Educational-methodical meeting of M. Auezov SKU

Minutes # 4 « 18 » 03 2025 y.

Chairman of the UMS _____ E.I. Imangaliev

The EP was approved by the decision of the Academic Council of the University

Minutes # 10 « 24 » 03 2025 y.

2. PASSPORT OF THE EDUCATIONAL PROGRAM

Purpose of the EP	To train highly qualified specialists and development engineers in demand in the field of computer science, computer technology and IT technologies.
Tasks of the EP	The formation of socially responsible behavior in society, understanding the importance of professional ethical norms and following these norms; - providing lifelong learning skills and abilities that will enable them to successfully adapt to changing conditions throughout their professional career; - providing conditions for acquiring a high general intellectual level of development, mastering competent and developed speech, culture of thinking and skills of scientific organization of work in areas of activity using computers and information and communication technologies, IT technologies; - formation of the competitiveness of graduates in the fields using computer technology and IT technologies to ensure the possibility of their fastest possible employment in their specialty or continuing their studies in a master's degree; - establishing conditions for the development of in-demand knowledge and skills, as well as a conscious attitude towards enhancing the welfare of society and conserving the planet within the framework of the SDGs.
Harmonization of EP	• 6th level of the National Qualifications Framework of the Republic of Kazakhstan; • Dublin descriptors of the 6th level of qualification; • 1 cycle of a Framework for Qualification of the European Higher Education Area); • 6^{th} Level of European Qualification Framework for Life long Learning).
Connection of the EP with the professional sphere	Professional standards approved by PNPP RK "Atameken": - "Software development", (No. 222, 12/05/2022), - "Database Administration" (No. 222, 12/05/2022), - "Creation and management of information resources" (No. 171, 07/17/2017), - "Providing software maintenance" (No. 222, 12/05/2022), - "Software developers and specialists in testing, WEB and multimedia applications" (No. 330, 12/05/2018). The sectorial framework of qualifications in the field of education, approved by Minutes No. 2 of the meeting of the sectorial tripartite commission on social partnership and regulation of social and labour relations under the Ministry of Education and Science of the Republic of Kazakhstan dated November 23, 2016.
Name of the degree awarded	After successful completion of this educational program, the graduate is awarded a Bachelor of Information Technology degree in the educational program 6B06110 "Informatics".
List of qualifications and positions	Primary Jobs Computer Science (Knowledge Processing Specialist, Information Security Specialist, System Analysts (General), IT Consultants and Business Analysts, Software Architects, Software Developers and Testers, Web and Mobile Application Developers and Testers, software maintenance professionals, information technology

	auditors, database administrator; database maintenance engineer, teacher of computer science in secondary and secondary specialized educational institutions (research institutions, design and design organizations) without presenting requirements for experience work in accordance with the qualification requirements of the Qualification Directory for the positions of managers, specialists and other employees, approved by order of the Minister of Labor and Social Protection of the Population of the Republic of Kazakhstan dated May 21, 2012 No. 201-ө-m.
Field of professional activity	research centers, government bodies, educational institutions and organizations of various forms of ownership, using mathematical methods and computer technologies to solve professional problems.
Objects of professional activity	information and communication technologies, computer systems and networks; mathematical and algorithmic models; high-speed computing systems; hardware and software for solving problems of science, education, engineering, economics and management.
Subjects of professional activity	- modern mathematical methods, methods of applied mathematics, computer science for solving problems of science, education, engineering, economics and management. - software and hardware for regional and global information networks, and the development of Internet technologies; - hardware for the development of modern operating systems based on the principles of reliability and fault tolerance, the design of real-time systems, processing, distributed data using parallel computers; - software for computer visualization of tasks of science and technology, animation of natural processes, abstract concepts in scientific research and educational activities.
Types of professional activity	• scientific research; • scientific - technological; • scientific production; • organizational and managerial; • educational.
Learning outcomes	**LO1.** Communicate freely in a professional environment and society in Kazakh, Russian and English, following the principles of academic honesty. **LO2.** Demonstrate socio-cultural and professional development, responsibility, ethical and economic thinking, collaboration skills and intercultural communication for responsible leadership in a team. **LO3.** Have information and computational literacy, the ability to generalize, analyze and perceive information, set goals and choose ways to achieve them. **LO4.** Solve professional problems in the field of IT management and information security, including protection against cyber threats and the development of secure solutions, using modern ICT, hardware and software, as well as intelligent systems and AI. **LO5.** Apply basic information processing algorithms to solving applied problems, evaluating the complexity of algorithms for programming, evaluating the accuracy of the results obtained and testing the program, choosing the most convenient technologies and application architectures for use.

	LO6. Apply application software packages and modern mathematical apparatus, relying on knowledge of natural sciences, mathematics and computer science, to solve problems of computational mathematics. **LO7.** Work in the tool environments of basic programming languages using professionally oriented software tools and integrated environments to create information and computer models of objects, phenomena, systems. **LO8.** Apply physical and mathematical apparatus and modern computer technologies to solve theoretical, fundamental and applied problems of mathematics, as well as problems of computer science. **LO9.** Develop, implement and test software for various platforms, including mobile ones, using formal methods and focusing on practical problems. **LO10.** Present the results of physical, mathematical, chemical and applied research in the form of specific recommendations understandable to specialists in the relevant field.