

MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE REPUBLIC
OF KAZAKHSTAN

M.O. Auezov SOUTH KAZAKHSTAN UNIVERSITY



«APPROVED»

Chairman of the Board-Rector

D.I. Ahmed-Zaki

03 2026 y.

EDUCATIONAL PROGRAM

8D01503 Computer science

Registration Number	8D01500002
Code and Classification of Education	8D01 Pedagogical sciences
Code and Classification of Areas of Training	8D015 Training of teachers in Natural science subjects
Group of educational programs (EP)	D012 Teacher training in informatics (Kazakh, Russian, English)
Type of EP	Acting EP
ISCE level	8
NQF level	8
IQF level	8
Language learning	Kazakh, Russian
The complexity of EP	180 credits
Distinctive features of EP	
Partner University (JEP) -	-
University partner (DDEP) -	-

Shymkent, 2026 y.

Developers:

Full Name	Position	Signature
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Tenizbaev E.Zh.	Head of the Department "technology and information technologies" of the Central Asian Innovation University (CAIU)	
Utegenov M. K.	director of the Higher College of new technologies named after M. Utebayev	
Myrzasalieva A. S.	director of the South Kazakhstan humanitarian and economic college	
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Suleimenova L. A.	Acting Head of the Department of Computer science, of the South Kazakhstan Pedagogical University named after U. Zhanibekov, C. t. s. senior teacher	

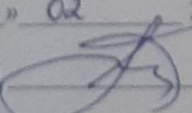
The educational program has been updated taking into account the new model of inclusive education and agreed with the City department of employment and social protection.

Deputy Head of the Department of Employment and Social Protection of Shymkent  K. Kaldykarayev

The EP was considered at a meeting of the Academic Quality Committee of the Natural Sciences and Pedagogy the Higher School, Minutes # 23 » 02 2026 y.

Chairman of the Committee  A. Tursynbaev

The Educational Program was considered and recommended for approval at Educational-methodical meeting of M. Auezov SKU, Minutes # 4 » 27 » 02 2026 y.

Chairman of the EMM  E.I. Imangaliev

The Educational Program was approved by the decision of the Academic Council of the University, Minutes # 14 » 26 » 03 2026 y.

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1. CONCEPT OF THE EDUCATIONAL PROGRAM

University Mission	Generating new competencies, training a leader who translates research thinking and culture
University Values	• Openness—open to change, innovation and cooperation. • Creativity – generates ideas, develops them and turns them into values. • Academic freedom – free to choose, develop and act. • Partnership – creates trust and support in a relationship where everyone wins. • Social responsibility – ready to fulfill obligations, make decisions and be responsible for their results.
Graduate Model	• Deep subject knowledge, their application and continuous expansion in professional activity. • Information and digital literacy and mobility in rapidly changing conditions. • Research skills, creativity and emotional intelligence. • Entrepreneurship, independence and responsibility for their activities and well-being. • Global and national citizenship, tolerance to cultures and languages.
Uniqueness of the of the educational program	• Orientation to the regional labor market and social order through the formation of professional competencies of the graduate, adjusted to the requirements of stakeholders • Practical orientation and emphasis on the development of critical thinking and entrepreneurship, the formation of a wide range of skills that will allow to be functionally literate and competitive in any life situation and be in demand in the labor market
Academic Integrity and Ethics Policy	The university has taken measures to maintain academic integrity and academic freedom, protection from any type of intolerance and discrimination: • Rules of academic integrity (order No. 212 of October 10, 2022); • Anti-corruption standard (order No. 9 n/a dated 08/01/2025). • Code of Ethics (Order No. 212 of October 10, 2022)
Regulatory and legal framework for the development of EP	1. Law of the Republic of Kazakhstan “On Education”; 2. «Model Rules for the Activities of Organisations of Higher and Postgraduate Education», approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated October 30, 2018 No. 595 as reworded by order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated June 24, 2024. No. 307; 3. Standard rules for admission to training in educational organizations implementing educational programs of higher and postgraduate education, approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated October 31, 2018 No. 600 as reworded by order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 26, 2024. No. 372; 4. State mandatory standards for higher and postgraduate education, approved by order of the Ministry of Education and Science of July 20, 2022 No. 2 as reworded by order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated March 04, 2025. No. 90; 5. Rules for organizing the educational process in credit technology of education, approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated April 20, 2011 No. 152 as reworded by order of the Minister of Science and Higher Education of the Republic of

	Kazakhstan dated April 29, 2024. No. 203; 6. Qualification reference book for 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 December 30, 2020 No. 553 as reworded by order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated June 20, 2024. No. 207; 7. Methodological recommendations for introducing ECTS principles into the educational process and expanding academic freedom. Appendix to the order of the Minister of Science and Higher Education. of the Republic of Kazakhstan dated February 12, 2024 No. 57 8. Guidelines for the development of educational programs for higher and postgraduate education, Appendix 1 to the order of the Director of the National Center for the Development of Higher Education of the Ministry of Education and Science of the Republic of Kazakhstan dated May 4, 2023 No. 601 Н/К
Organization of the educational process	• Implementation of the principles of the Bologna Process • Student-centered learning • Availability • Inclusivity
Quality assurance of the Educational program	• Internal quality assurance system • Involvement of stakeholders in the development of the Educational Program and its evaluation • Systematic monitoring • Actualization of the content (updating)
Requirements for applicants	They are established in accordance with the Standard Rules for admission to training in educational organizations implementing educational programs of higher and postgraduate education by order of the Ministry of Education and Science of the Republic of Kazakhstan No. 600 as reworded by order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 26, 2024. No. 372
Conditions for the implementation of educational programs (EP) for persons with disabilities and special educational needs(SSN)	For students with special needs and disabilities, tactile PVC tiles, specially equipped toilets, a mnemonic diagram, and rods in shower rooms have been installed in educational buildings and student dormitories. Special parking spaces have been created. A crawler lift has been installed. There are desks for MGN, signs indicating the direction of movement, and ramps. In the educational buildings (main building, building No. 8) there are 2 classrooms with six workstations adapted for users with musculoskeletal disorders (MSD). For users with low vision, a SARA™ CE machine (2 pcs.) for scanning and reading books is available. The library website is adapted for the visually impaired. There is a special audio program NVDA with the service. The JIC website http://lib.ukgu.kz/ operates 24/7. An individual differentiated approach is provided for all types of classes and in organizing the educational process,

2. PASSPORT OF THE EDUCATIONAL PROGRAM

Purpose of the EP	Training of highly qualified, competitive and professional - mobile doctor PhD , able to contribute their own original research to expand the boundaries of knowledge in the field of IT-technologies and information education
Tasks of the EP	- formation of social and responsible discipline in society, understanding and compliance with the norms of professional ethics; - provide skills and lifelong learning skills that allow them to successfully adapt to changing conditions throughout their professional careers; - creation of conditions for achieving a high level of intellectual development in general, the ability to speak competently and fluently, the skills of scientific organization of work in the field of culture of thinking and IT technology; -in the field of IT technologies to ensure the opportunity to get a job as soon as possible in the specialty or to receive Continuing Education at the next levels of Education formation of the competitiveness of graduates.
Harmonization of EP	• 8 th level of the National Qualifications Framework of the Republic of Kazakhstan; • Dublin descriptors of the 8 th level of qualification; • 3 cycle of a Framework for Qualification of the European Higher Education Area); • 8 th Level of European Qualification Framework for Life long Learning).
Connection of EP with the professional sphere	Professional standard: Teacher (faculty) of higher and (or) postgraduate education organizations. Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated November 20, 2023 No. 591.
Name of the degree awarded	Persons, who have mastered the EP of doctoral studies and defended a doctoral dissertation, with a positive decision of the dissertation councils of the OHPE with a special status or the Committee for Quality Assurance in Education and Science of the Ministry of Science and Higher Education of the Republic of Kazakhstan, are awarded the PhD degree on the EP 8D01503 Computer science
List of qualifications and positions	Doctor of PhD on EP 8D01503 Computer science can hold positions: -senior researcher, manager in research institutions, design and design organizations; -a teacher of mathematics in higher educational institutions, a methodologist in education departments, a researcher; -head of the scientific group in research institutes and laboratories and computer centers, in centers using modern computer technologies; -a leading specialist in management organizations, a specialist in state institutions conducting statistical activities
Field of professional activity	Science and education, which includes pedagogical, research, organizational and managerial work related to the use of IT technologies.
Objects of professional activity	-research institutes and laboratories; -higher educational institutions of state and non-state profile; -public administration bodies in the field of education and natural sciences; -banking and financial structures; -organizations of the control and analytical service, standardization and certification centers; organizations engaged in statistical activities
Subjects of professional activity	-theoretical development of mathematical models in mathematics, natural sciences, engineering, economics; -scientific experiments of the computational process; -computer, network and computing technology;

	-modern methods of analysis, algebra, differential equations, control, numerical and approximate solutions of mathematical problems; -mathematical economics; -development of effective methods for solving problems of natural science
Types of professional activity	Doctor of PhD in EP 8D01503 Computer science can perform the following types of professional activities: -research, as researchers in research institutes, laboratories and computing centers and in centers using modern computer technologies; -design, experimental; -organizational, technological, production and management, as heads of departments and laboratories of the above profiles; -educational (pedagogical) as teachers of mathematics in higher educational institutions of state and non-state profile; -prognostic, mathematical-economic, organization and conduct of statistical observations
Learning outcomes	LO1. Use international peer-reviewed databases and resources to publish texts of scientific information, adhering to the rules and principles of search, research and creation of scientific articles LO2. To teach by applying innovative learning technologies and modern directions of education development LO3. Develop effective research methodologies, including the formulation of research questions, conducting experiments, analyzing data and interpreting results LO4. To carry out research work using the philosophy and methodology of modern science LO5. Solve professional tasks using modern educational and information technologies in computer science education to achieve the best learning outcomes LO6. Create software applications and educational modules for learning in a virtual educational environment

3. COMPETENCIES OF THE EP GRADUATE

GENERAL COMPETENCIES (SOFT SKILLS): Behavioral skills and personal qualities	
GC 1. Competence in managing one's literacy	GC1. 1. ability to solve the tasks of their professional and personal development; GC1.2. the ability to use logical thinking to make decisions and implement them in practice.
GC 2. Language competence	GC2. The ability to master the skills of scientific communication in a foreign language, competent communication in scientific and professional activities.
GC 3. Mathematical competence and competence in the field of science	GC3. Knowledge of research methods, collection and processing of information, viewing the results of the study, determining the relevance and necessity of the study. Use of the results of scientific research in the educational process
GC 4. Digital competence, technological literacy	GC4. Ability to perform productive activities in the subject area on the basis of information and computer technologies, based on existing experience and constantly improving and expanding its boundaries
GC 5. Personal, social and educational competencies	GC5. 1. ability to creatively analyze and evaluate modern scientific achievements, modern problems and prospects of socio - economic development of Kazakhstan; GC5.2. ability to generate ideas, predict the results of innovative activities, implement large-scale changes in the professional and social sphere
GC 6. Entrepreneurial competence	GC6.1. the ability of the team to develop creative and entrepreneurial skills, be ready to carry out management functions and solve professional problems in the interests of the organization as a whole on the basis of a deep understanding of the specifics of a market economy, the functions and economic role of the state; GC6.2. the ability to manage complex problems is realized through production processes and research projects, making decisions in conditions of uncertainty and risk.
GC 7. Cultural awareness and self-expression	GC 7. the ability to demonstrate awareness of Social Responsibility and commitment to civilized ethical standards of behavior in scientific work and business
PROFESSIONAL COMPETENCIES (HARD SKILLS):	
Theoretical knowledge and practical skills specific to this field	PC1. To have an idea of scientific schools in the field of computer science, their theoretical and practical developments, scientific concepts of world and Kazakhstan Science in the field of IT technologies;
	PC2. Knowledge and understanding of current trends, trends and patterns of development of domestic science in the context of globalization and internationalization, methodology of scientific knowledge, achievements of world and Kazakhstan Science in the field of IT technologies;
	PC3. Be able to plan, develop, implement the process of scientific research, critically analyze, evaluate and compare new and complex ideas, use innovative methods and organizational forms of teaching computer science;
	PC4. Mastering the skills of public speaking, organizing scientific events, protecting intellectual rights, using modern approaches to teaching Computer Science, new information and educational technologies;
	PC5. To be able and competent in the further development of the educational environment of the 21st century, in new theoretical methods and models of teaching computer science, in informatization of education at various stages of training and educational levels.

3.1. MATRIX FOR CORRELATING LEARNING OUTCOMES IN THE EDUCATIONAL PROGRAM AS A WHOLE WITH THE COMPETENCIES BEING DEVELOPED

	LO1	LO2	LO3	LO4	LO5	LO6
GC1				v	v	v
GC2	v					v
GC3	v		v			
GC4		v	v			
GC5		v				
GC6	v			v		v
GC7				v	v	
PC 1		v	v			
PC 2		v	v		v	
PC 3				v	v	v
PC 4	v					v
PC 5	v		v			

4. MATRIX OF THE INFLUENCE OF MODULES AND DISCIPLINES ON THE FORMATION OF LEARNING OUTCOMES AND INFORMATION ON LABOR INTENSITY

№	Name of the module	Cycle	Component	Name of the discipline	Brief description of the discipline	Number of credits	Generated learning outcomes (codes)					
							LO1	LO2	LO3	LO4	LO5	LO6
1	Module of scientific substantiation of technology	BD	UC	Academic writing	Objective: to develop relevant competencies among doctoral students aimed at forming the readiness and ability of scientific and pedagogical personnel to implement their own research projects and present their results in writing in accordance with the norms of the international academic community. Content: Features of academic discourse: style, genres, problems. The formulation of a research question. The structure of the introduction and its role in presenting the results of scientific work. The design of the bibliography and reference apparatus. Types of annotations and features of their compilation. Reviewing a scientific text.	3	v			v		
		BD	UC	Scientific Research methods	Purpose: development of research skills; familiarization of doctoral students with scientific knowledge, readiness and ability to conduct research. Contents: Basic concepts, terminology and definitions of science. Classification of sciences. Methodological foundations of scientific knowledge. Empirical and theoretical levels of scientific knowledge. The organization of research. General information about research, OCD, and UIRS. Methods of scientific research. The choice of a topic and the main stages of research. The organization of research. Processing of experimental data. Economic and mathematical modeling. Registration of research results. Justification of the expediency of implementing research results. Drawing up a research program. The path of scientific research based on the proposed hypothesis. Original ways to implement	4	v			v		

					scientific tasks.							
		BD	EC	Actual issues of theoretical informatics	Purpose: to form a based understanding of the relevance and scientific novelty of their research in the context of theoretical and applied problems of modern computer science and trends in the development of IT technologies. Contents: History, methodology and philosophy of computer science. Overview of the well-known classifications of information sciences. Information revolutions and ITO (Information technology training). Information theory and L. Floridi's problems. The mathematical theory of communication by K. Shannon. Information theory in biology. Metaphor of information in evolutionary biophysics	6			v			v
		BD	EC	Actual Issues of Informatization of Education in High School and at School	Purpose: to train specialists of pedagogical universities who know the methodology, technologies and means of informatization of all types of educational activities. Contents: Introduction to informatization of education. Technical means of informatization. Technologies of informatization of education. The Internet in education. Methods of informatization of educational activities. Development of learning informatization tools. Information educational environment and information educational space. Factors of formation of teachers' readiness to use informatization tools and methods.	6		v			v	
				Pedagogical Practice	Purpose: to consider the methodological foundations of modern education, the dialectical relationship between pedagogical theory and school practice. Content: the ability to be able to present their own new scientific results in the form of strictly substantiated statements, to formalize the results of work in the form of a report, research results in the form of articles, reports, to analyze the essence of the main modern methods and technologies of teaching at school.	10			v	v	v	
2	Research Methodology and	PD	EC	Modern Trends in the Development of	Purpose: To study current trends in teaching using innovative technologies to optimize the educational process	6					v	v

	Educational Analytics			Innovative Technology Training	and increase its effectiveness. Content: Cloud technologies: The use of cloud services for storing and sharing educational materials. Interactive learning methods: The introduction of virtual and augmented reality to create interactive learning tools. Data analytics: The application of data analysis to personalize the educational process. Online education: Development of online platforms and courses for distance learning. Interactive learning materials: Creation of multimedia educational materials to attract the attention of students. Hybrid forms of education: The use of mixed teaching methods combining traditional and modern approaches. Adaptive learning: The development of learning systems that can adapt to the individual needs of students.							
		PD	EC	Methodological aspects of IT technology	Purpose: Teaching theory, methods and technologies in the field of IT infrastructure development and management, management and development of IT infrastructure of various profiles and scales, as well as the formation of practical skills for the effective construction and modernization of IT infrastructure. Content: IT technologies in the activities of organizations of various directions. Architecture and business architecture of IT technologies of the enterprise. Development of information technologies at the present stage. Client-server systems. Data processing centers. Integration of information technologies in business processes. Architecture of computer systems. The organization's IT infrastructure is an explanatory apparatus. The role and functions of the IT infrastructure in the organization's activities. Principles of enterprise IT infrastructure management. Fundamentals of process management of information technologies. Methods of modeling IT processes of the organization. Equipment and management systems of the organization's IT infrastructure. IT infrastructure management tools and systems. Tools for managing the IT infrastructure of small and medium-sized	6		v			v	

				enterprises. Ensuring the security of the IT infrastructure. Methodological foundations for integrating artificial intelligence into the adaptive learning system in higher education. Ethical and pedagogical aspects of using artificial intelligence in the educational environment: developing a responsible methodology. Development of new-generation intelligent tutor systems for online learning. A comprehensive methodology for implementing artificial intelligence into the system of advanced training for teachers.							
		PD	EC	Computer processing and analysis of knowledge assessment	Purpose: To develop a quality control system for the acquired knowledge and skills in the educational process. To study the advantages and disadvantages of traditional and new methods of monitoring the evaluation of learning outcomes in the educational process. To create a system of scientifically-based verification of learning outcomes, to establish the difference between the actual and planned level of development of the curriculum. Contents: Types of knowledge testing, basic properties of computer tests, An overview of the capabilities of programs for creating computer tests. The possibilities of using computer testing in assessing the quality of training. Using an automatic system for registration and evaluation analysis.	6			v	v	
		PD	EC	Applied Statistics and Data Analytics	Purpose: To develop doctoral students' competencies in applying modern statistical methods and analytical approaches for scientific research, experimental data processing, statistical modeling, and interpretation of analytical results. Content: The discipline covers modern methods of applied statistics, data collection and processing, statistical analysis, hypothesis testing, regression modeling, multivariate analysis, data visualization, and the use of analytical tools and software. The discipline is aimed at developing doctoral students' skills in evidence-based data analysis and improving the reliability of scientific research results.	6			v	v	v

				Research practice	The goal is to conduct original scientific research, create new knowledge and expand scientific understanding in the field of mathematical knowledge. Development of goals and objectives of research practice, conducting bibliographic work on the topic of the dissertation work, processing and analyzing the data obtained. The ability to compile the results of their own research with existing data in science, providing a critical approach to the results of their own research, readiness for professional self-improvement and the development of creative potential and professional skills.	10			v	v	v	
3	Module of research work and Final Certification			Research work of a doctoral student, including passing an internship and completing a doctoral dissertation	The goal is to gain new scientific knowledge, develop scientific thinking, skills of scientific research, analysis, evaluation and interpretation of scientific data. In the process of research work, a doctoral student can also undergo internships, practical classes and other activities aimed at expanding his professional experience and competencies. The ultimate goal of a doctoral student's research work is the successful completion of a doctoral dissertation, its presentation and defense before the scientific community, as well as the possible introduction of scientific results into practice and the field of professional activity.	123			v	v	v	v
				Writing and defending a doctoral thesis	The goal is to prepare doctoral students for independent research, writing and defending a doctoral dissertation. The content of the discipline includes familiarization with the scientific method, conducting a literary review, formulation of scientific tasks and hypotheses, development and implementation of a research plan, analysis of results, writing a scientific dissertation in compliance with the requirements of scientific style and design. In the course of training, attention is also paid to the skills of presenting scientific results and preparing for the defense of a dissertation before the scientific council. Doctoral students also study the ethical aspects of scientific research and	12				v	v	v

					scientific publication. Special attention is paid to the development of scientific thinking, critical analysis and independence in conducting research, writing and defending a doctoral dissertation.							
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5. SUMMARY TABLE REFLECTING THE VOLUME OF DISBURSED LOANS BY EDUCATIONAL PROGRAM MODULES

Course of training	Semester	Amount of the mastered modules	Amount of the studied disciplines		Amount of KZ credits					Total in hours	Total loans KZ	Amount	
			BD	EC	Theoretical training	Pedagogical practice	Research practice	RWD	Writing and defending a doctoral dissertation			Exam	Diff. credit
1	1	3	3	2	25			5		900	30	5	1
	2	2				10		20		900	30		2
2	3	2					10	20		900	30		2
	4	1						30		900	30		1
3	5	1						30		900	30		1
	6	1						18	12	900	30		1
Total			3	2	25	10	10	123	12	5400	180	5	8

6. STRATEGIES, TEACHING METHODS AND ARTIFICIAL INTELLIGENCE, MONITORING AND ASSESSMENT

Learning strategies	Student-centered learning: The doctoral student is the center of teaching/learning and an active participant in the learning and decision-making process. Practice-oriented training: orientation to the development of practical skills.
Teaching methods	Conducting lectures, seminars, practical and laboratory work, various types of practices, using: • innovative technologies; • problem-based learning; • case study; • work in a group and creative groups; • discussions and dialogues, intellectual games, olympiads, quizzes; • reflection methods, projects, benchmarking; • Bloom's taxonomies; • presentations; Rational and creative use of information sources: • multimedia training programs; • electronic textbooks; • digital resources. machine learning methods Organization of independent work of doctoral students, individual consultations. Provision of inclusive education to persons with special needs corresponding to the Roadmap for the development of inclusive Education in Higher and (or) postgraduate education organizations for 2023-2025 (Approved by the Minister of the Ministry of Education and Science of the Republic of Kazakhstan on 03/27/2023)
Monitoring and evaluation of the achievability of learning outcomes	Current control on each topic of the discipline, control of knowledge in classroom and extracurricular classes (according to syllabus). Assessment forms: • survey in the classroom; • testing on the topics of the academic discipline; • control works; • protection of independent work; • term papers; • colloquiums; • essays, etc. Boundary control at least twice during one academic period within the framework of one academic discipline. Intermediate certification is carried out in accordance with the working curriculum, academic calendar. Forms of holding: • exam in the form of testing; • oral examination; • written exam; • combined exam; • project protection; • protection of practice reports. Final state certification.

7. EDUCATIONAL AND RESOURCE SUPPORT OF THE EDUCATIONAL PROGRAM

Information Resource Center	The structure of the EIC has 6 subscriptions, 16 reading rooms, 2 electronic resource centers (ERC). The basis of the network infrastructure of the EIC is 180 computers with Internet access, 110 automated workstations, 6 interactive whiteboards, 2 video dvoik, 1 video conferencing system, 3 scanners of A-4 format, 3. The software of the EIC – АИБС «ИРБИС-64» for MSWindows (a basic set of 6 modules), an autonomous server for uninterrupted operation in the ИРБИС system. The library fund is reflected in the electronic catalog available to users on the website http://lib.ukgu.kz is on-line 24 hours 7 days a week. Thematic databases of their own generation have been created: "Almamater", "Труды ученых ЮГУ", "Электронный архив". Online access from any device 24/7 via an external link http://articles.ukgu.kz/ru/pps. Working with catalogs in electronic form. The EC consists of 9 databases: "Books", "Articles", "Periodicals", "Труды ППС ЮГУ", "Rare books", "Electronic Fund", "ЮГУ в печати", "Readers" of "SKU". The EIC provides its users with 3 options for accessing its own electronic information resources: from the Electronic Catalog terminals in the catalog hall and divisions of the EIC; through the university's information network for faculties and departments; remotely on the library's website http://lib.ukgu.kz/ Access to international and republican resources is open: "SpringerLink", "Полпред", "Web of Science", "EBSCO", "Эпиграф", to electronic versions of scientific journals in open access, "Зан", "РМЭБ", "Әдебиет", Digital library "Aknurpress", "Smart-kitap", "Kitap.kz", etc. For people with <i>special needs and disabilities</i>, the library's website has been adapted to the work of visually impaired users in the ERC.
Material and technical base	The department has the following classrooms with a total area of 274 m²: The office of the head of the department is 316 (building No. 7, Baitursynov St.). The office of the head of the laboratory is 313 (building No. 7, Baitursynov St.). The teachers' office is 315,317,318,319 (building No. 7, Baitursynova str.). Computer classes-304,308,312 (building No. 7, Baitursynova str.). The department is equipped with the following equipment: computers (Core 2 Quad, Intel Core 2 Duo), printer, scanner, local system, etc. There are 39 computers in three computer classes of the department, 3-in-1 MFPs (copier, printer, scanner). In the computer room (304,308,312), computers are connected to a network system.

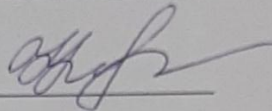
APPROVAL SHEET
according to the Educational program 8D01503 Computer science

Director of the Institute of
Postgraduate Education



G. Yelibayeva

Director of the DASc



U. Nazarbek