Ф.7.02-10

Ministry of Sciences and Higher Education of the Republic of Kazakhstan
M. Auezov South Kazakhstan University

«APPROVED»
Acting Chairman of the Board - Rector
_____
Kurmanbayev
«28» 08 2024 y.

EDUCATIONAL PROGRAM

8D01510-Mathematics

Registration Number	8D01500004
Code and Classification of Education	8D01 Pedagogical science
Code and Classification of Areas of Training	8D015 Training of teachers in Natural science subjects
Group of educational programs (EP)	D010 Training of teachers of mathematics
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, 2024 y.

Developers:

Full Name	Position	Signature
Sh. Altynbekov	Acting Head of the Department of Mathematics, PhD	
L. Iskakova	Director of the Branch Orleu for Turkistan region and Shymkent city, Doctor of Pedagogical Sciences, professor 07.02.24	
A. Amankulova	Director of the school-gymnasium No.1 named after A.S.Pushkin 06.02.24	
A. Sakhova	Director of the specialized gymnasium №28 with instruction in three languages named after M.H.Dulati 05.02.24	
Zh. Sarsenbayeva	Director of gymnasium No.50 named after A.Baitursynov 05.02.24	
A. Kayypov	Director of secondary school No.65 05.02.24	
P. Duisebaeva	Senior Lecturer of the Department of Mathematics	
P. Sabyrkhanova	Doctor's student of the DEP-22-1nk group	

The Educational Program was reviewed at a meeting of the Academic committee for quality assurance of Educational Programs in Natural Sciences, Mathematics and Statistics
Minutes № 4 « 23 » 02 2024 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 « 28 » 02 2024 y.

Chairman of the EMM _____ K. Sarykulov

The Educational Program was approved by the decision of the Academic Council of the University,
Minutes № 10 « 28 » 03 2024 y.

Content

1. CONCEPT OF THE EDUCATIONAL PROGRAM

Mission of the University	We are focused on 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 – 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 EP	- 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. 221 n/a dated 12/07/2021). - 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 educational organizations implementing educational programs of higher and (or) postgraduate education, approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated October 30, 2018 No. 595 with amendments and additions dated December 29, 2021. No. 614 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 with amendments and additions dated 06/02/2023. No. 252 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; 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; with changes and additions from 09/23/2022. No. 79 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.

	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 n/k
Organization of the educational process	– Implementation of the principles of the Bologna Process – Student-centered learning – Availability – Inclusivity
Quality assurance of EP	– Internal quality assurance system – Involvement of stakeholders in the development of the EP and its evaluation – Systematic monitoring – Updating 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 dated October 31, 2018, with changes and additions dated June 2, 2023. No. 252
Conditions for the implementation of educational programs (EP) for persons with disabilities and special educational needs(SSN)	For students with SEN (special educational needs) and persons with disabilities (PSI), tactile PVC tiles, specially equipped toilets, a mnemonic diagram, and shower bars have been installed in educational buildings and student dormitories. Special parking spaces have been created. Crawler lift installed. There are desks for people with limited mobility (PLM), signs indicating the direction of movement, ramps. In the educational buildings (main building, building No. 8) there are 2 rooms with six working places adapted for users with disorders of the musculoskeletal system (DMS).For visually impaired users, the SARA™ CE Machine (2 pcs.) is available for scanning and reading books. The library website is adapted for the visually impaired. There is a special NVDA audio program with a service. The JIC website http://lib.ukgu.kz/ is open 24/7. An individual differentiated approach is provided for all types of classes and in the organization of the educational process.

2. PASSPORT OF THE EDUCATIONAL PROGRAM

Purpose of the EP	Training of doctors with professional competencies, able to contribute their own research in the methodology of mathematics and in the development of education.
Tasks of the EP	• providing conditions for the acquisition of quality fundamental, professional education, deep specialized knowledge in the subject area of mathematics, mastering logical and critical thinking, systematic theoretical knowledge and practical skills in topical areas of development of mathematics and methods of teaching mathematics; • instilling the skills of independent scientific research, examination and analysis of scientific problems and continuous training throughout life; • development of skills of the organization, planning and carrying out research works, ability to apply them in research, pedagogical and managing activity; • involvement in research and innovative activity of the scientific and pedagogical direction assuming fundamental, educational, methodological and research preparation; • formation of competitiveness of graduates in the relevant areas of mathematics, pedagogy and psychology for the system of higher and postgraduate education and science. • 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	• 8th level of the National Qualifications Framework of the Republic of Kazakhstan; • Dublin descriptors of the 8th level of qualification; • 3 cycle of a Framework for Qualification of the European Higher Education Area); • 8th Level of European Qualification Framework for Life long Learning).
Connection of the 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 8D01510-Mathematics
List of qualifications and positions	senior researcher, the Manager in research institutions, design and design organizations, the teacher of mathematics in higher educational institutions, the methodologist in departments of education, the researcher, the head of scientific group in research institutes and laboratories and the computer centers in the centers using modern computer technologies, leading specialist in management organizations
Field of professional	• Science and education; • mathematics;

activity	• mathematics and applied mathematics; • mathematics in Economics; • banking; • University teacher; • actuarial mathematics.
Objects of professional activity	• higher education institutions of state and non-state profile; • public administration bodies in the field of education and natural Sciences; • research centres, institutes and laboratories; • banking and financial structures; • of the control and analytical services, centers of standardization and certification.
Subjects of professional activity	• systems of theoretical knowledge on the theory and methods of teaching mathematical disciplines; • methods and mechanisms of commercialization of research results; • systems of practical skills of development of educational and methodical complexes of mathematical disciplines and disciplines on methods of teaching mathematics; • system of higher education; • education management systems; • development of educational and methodical documentation of research; • application of international cooperation in the professional sphere.
Types of professional activity	• research and development; • scientific-pedagogical; • industrial-technological; • organizational and management; • experimental research; • educational as a teacher of mathematics in higher educational institutions of state and non-state profile.
Learning outcomes	**LO1.** Develop a problem research apparatus and apply the optained skills in professional activities in the field of science and mathematics methodology, use the results obtained for self-improvement of knowledge, in education management, successfully carry out research and teaching and management activities. **LO2.** To improve and develop the philosophical and methodological foundations of scientific and pedagogical research. **LO3.** Summarize the results of experimental research and analytical work in the form of a thesis, article, report, analytical note, etc. **LO4.** Examine problems in various areas of mathematics, determine the opposite of the situation, formulate a hypothesis, develop, verify the truth of the proposed hypothesis, prove scientific conclusions and summarize. **LO5.** Systematize research results in the field of scientific mathematics. **LO6.** Plan the use of basic methods and technologies for the modernization of modern university mathematical education. **LO7.** To systematize the work of the election instrumentalization of the management of the educational process, providing the designed educational activities. **LO8.** To develop skills of conceptual, analytical and logical thinking, a creative approach in professional activities, carable of working in a national and international team, that learns strategy for learning throughout life.

3. COMPETENCIES OF THE EDUCATIONAL PROGRAM GRADUATE

SOFT SKILLS. Behavioral skills and personality qualities	
SS 1. Competence in managing one's own literacy	SS1.1. The ability of self-learn, self-develop and constantly update their knowledge within the chosen trajectory and in an interdisciplinary environment. SS1.2. The ability to express thoughts, feelings, facts and opinions in the professional field. SS1.3. The ability for mobility in the modern world and critical thinking.
SS 2. Language competence	SS2.1. The ability to build communication programs in the state, Russian and foreign languages. SS2.2. The ability for interpersonal social and professional communication in the conditions of intercultural communication.
SS 3. Mathematical Competence and Competence in the field of Science	SS3.1. The ability and willingness to apply the educational potential, experience and personal qualities acquired during the study of mathematical, natural science, technical disciplines at the university to solve professional problems.
SS 4. Digital competence, technological literacy	SS4.1. The ability to demonstrate and develop information literacy through the mastery and use of modern information and communication technologies in all areas of their lives and professional activities. SS4.2. The ability to use various types of information and communication technologies: Internet resources, cloud and mobile services for searching, storing, protecting and disseminating information.
SS 5. Personal, social and academic competencies	SS5.1. The ability for physical self-improvement and focus on a healthy lifestyle to ensure full-fledged social and professional activities through the methods and means of physical culture. SS5.2. The aility to social and cultural development based on the manifestation of citizenship and morality. SS5.3 The ability to build a personal educational trajectory throughout life for self-development, career growth and professional success. SS5.4. The ability to successfully interact in a variety of socio-cultural contexts during study, work, home and leisure.
SS 6. Entrepreneurial competence	SS6.1. The ability to be creative and entrepreneurial in a variety of environments. SS6.2. The ability to work in a mode of uncertainty and rapidly changing task conditions, make decisions, allocate resources and manage your time. SS6.3. The ability to work with consumer requests.
SS 7. Cultural awareness and ability to express yourself	SS7.1. The ability to show worldview, civil and moral positions. SS7.2. The ability to be tolerant of the traditions and culture of other peoples of the world, to have high spiritual qualities.
PROFESSIONAL COMPETENCES (HARD SKILLS).	
Theoretical knowledge and practical skills specific to this area	**PC 1.** To make mathematical models of economic, physical, chemical and other processes, to develop methods for their solution, to solve the problem, to conduct a patent search and to apply for an invention;
	PC 2. To develop a methodology for selecting the necessary method

	of analysis and methods of its implementation; to present a point of view on the results of the study when discussing with experts and a wider audience on research topics and on the topic of dissertation work;
	PC 3. To design scientific work using skills of management of the main production relations taking into account technical, financial and human factors, development of progressive technologies and the latest methods of the solution of mathematical problems;
	PC 4. To develop the independence of scientific mathematical research for educational and scientific purposes and management of professional activities, to contribute to their own research in expanding the boundaries of knowledge in the field of mathematics, science and education.

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

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CC1	✓				✓	✓		
CC2						✓	✓	
CC3	✓						✓	✓
CC4	✓	✓	✓	✓	✓			
CC5		✓	✓	✓				
CC6							✓	✓
CC7		✓					✓	
PC1				✓				✓
PC2	✓	✓						✓
PC3	✓						✓	
PC4	✓				✓	✓		

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

№	Module name	cycle	component	Name of the discipline	Brief description of the discipline	Amount of credits	Formed learning outcomes (codes)							
							PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
1.	Methodological training	BD	UC	Academic writing	Purpose: to review the rules of scientific citation; requirements for bibliographic description; features of genres of academic writing (AP): essay, abstract, abstract, review; stages of AP: planning, writing, editing, reviewing; structure of a scientific manuscript: title, abstract, keywords, introduction, results and discussion, conclusion, references. Forms the skills of bibliographic description; creation of summaries, annotations and abstracts of scientific articles, etc.; public discussion of scientific papers.	3		✓	✓		✓			
		BD	UC	Scientific Research methods	The purpose is to reveal the basics of the methodology of scientific research; the logic of the process and methods of scientific research; the empirical, theoretical level of scientific research. Content: methodology of work on the research manuscript; composition and content of the dissertation work, requirements for their design. Information about the organization of research work, the stages of its implementation and the presentation of results, recommendations for scientific work.	4				✓	✓		✓	
		BD	EC	Problems of Mathematics Education in Teachnical in	Purpose: to formulate and study the goals and objectives of teaching mathematics in technical universities. Consider the issues and give recommendations to them.	6	✓			✓		✓		

				Technical Higher Schools	Contents: Method of mathematical induction. The method of geometric transformation. Vector method. The coordinate method. Using the derivative in proofs. Preliminary preparation for the proof. Definition, conditions and theorems. Lesson planning. Preparation for lectures. Activation of students' work at lectures.Requirements for mathematical problems for technical education.									
		BD	EC	Problems of Geometric Education	Study and analysis of the main problems related to geometric education in various contexts, such as schools, universities, vocational education. Content: problems of geometric education in universities, methods of solving geometric problems and proving geometry theorems. The role of geometric education in human life. Design examples of figure movements, plane transformations. Methods of geometric transformations. Solving problems by the method of geometric transformations.		✓			✓		✓		
		BD		Pedagogical practice	Purpose: to consider the methodological foundations of modern education, the dialectical relationship of 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			✓			✓		

2.	Actual Problems of the Theory of Integral Equations	PD	EC	Integral Transforms and Their Applications	The purpose of the discipline is to study the theoretical foundations and practical aspects of integral transformations, as well as their wide range of applications in science, technology and other fields. Considers the relationship between linear differential and integral Volterra equations. Compilation of integral equations according to given differential equations. Solving integral equations by reducing them to ordinary differential equations. Application of the Laplace transform to the solution of linear differential equations and systems of equations with constant coefficients, linear integral equations and systems of Volterra equations of the 1st, 2nd convolution type	6					✓			✓
		PD	EC	Theory and Applications of Operator Transformations	The purpose of the discipline is to study the theoretical foundations and practical aspects of operator transformations, as well as their applications in various fields of science, technology and other disciplines. The content of the discipline includes the study of the basic concepts and properties of operator transformations, such as the Laplace operator, Fourier operator, Haar operator, their relationship with other mathematical objects and methods of analysis. Methods for solving operator equations, spectral properties of operators, as well as applications of operator transformations in various fields such as signal and image theory, control, optimization, quantum mechanics, and other scientific and engineering applications are also studied.						✓			✓
		PD	EC	Difference Methods for	The purpose of the discipline is to familiarize with the basic principles and techniques of	6					✓			✓

				Solving Grid Equation	numerical solution of grid equations, which are one of the important tools in numerical analysis and mathematical modeling. The content of the discipline includes the study of various difference methods, such as explicit, implicit and Crank-Nicholson methods, finite difference methods, finite volume methods and finite element methods. The difference methods of solving grid equations, methods of numerical solution of grid equations, theoretical foundations of the method of solving systems of linear and nonlinear equations, construction of interpolation algorithms are considered. Ability to analyze the task and choose ways to solve it; optimize the computational algorithms used. Possession of practical computational skills for solving applied problems using the means of a mathematical package.									
		PD	EC	Difference Methods for Solving Integral Equation	The purpose of the discipline is to familiarize with the basics of numerical solution of integral equations and acquire practical skills in applying various difference methods to solve such equations. The content of the discipline includes the study of basic concepts and definitions, the classification of integral equations, the analysis of various methods, such as methods of direct and inverse transformations, grid methods, Monte Carlo methods and others, as well as the study of their accuracy, stability and convergence. Doctoral students will also gain practical experience in numerical solution of integral equations using software packages and conduct a comparative analysis of the results.						✓			✓
				Research Practice	The goal is to conduct original scientific research, create new knowledge and expand	10	✓	✓	✓	✓	✓			

					scientific understanding in the field of mathematical knowledge and teaching methods. 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.									
3.	Module of scientific 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	✓	✓	✓	✓	✓			✓
				Writing and defending a doctoral's 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	12	✓	✓	✓	✓	✓			✓

					compliance with the requirements of scientific style and design. Consideration of a doctoral dissertation as a document confirming the competencies acquired in the course of training in accordance with the chosen direction of development of science and education. The ability to defend a doctoral dissertation at an open meeting of the dissertation council with the participation of the chairman of the council and its composition. Knowledge and understanding of the procedure and regulations for the defense of a doctoral dissertation.								

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 hours	Total KZ credits	Amount	
			UC	EC	Theoretical training	Pedagogicalpractice	Researchpractice	Research work of a doctoral student, including passing an internship and completing a doctoral dissertation	Writing and defending a doctoral's thesis			exam	Diff. credit
1	1	3	2	3	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	3	3	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 learner is the center of teaching/learning and an active participant in the learning and decision-making process. **Practice-oriented learning:** focus on the development of practical skills.
Teaching methods	Conducting lectures, seminars, various types of practices: • application of innovative technologies: problem learning; case study; group work and creative groups; discussions and dialogues, intellectual games, competitions, quizzes; methods of reflection, projects, benchmarking; Bloom's taxonomy; presentations; • rational and creative use of information sources: multimedia tutorials; 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 assessing the achievability of learning outcomes	Current control on each topic of the discipline, control of knowledge in classroom and extracurricular activities (according to the syllabus). Assessment Forms: survey in the classroom; testing on the topics of the academic discipline; test papers; protection of independent creative works; discussions; trainings; colloquia; essays, etc. **Frontier control** at least two times during one academic period within the same academic discipline. **Intermediate certification** is carried out in accordance with the working curriculum, academic calendar. Conduct forms: exam in the form of testing; oral exam; a written exam; combined exam; protection of projects; • protection of practice reports. **Final state certification.**

7. EDUCATIONAL AND RESOURCE SUPPORT OF THE EDUCATIONAL PROGRAM

Educational Information Center	The structure of the Educational Information Center includes 6 subscriptions, 16 reading rooms, 2 electronic resource centers (ERC). The basis of the network infrastructure of the Educational and Information Center is 180 computers with Internet access, 110 workstations, 6 interactive whiteboards, 2 video doubles, 1 video conferencing system, 3 A-4 format scanners, JIC software - AIBS "IRBIS-64" under MS Windows (basic set of 6 modules), stand-alone server for uninterrupted operation in the IRBIS system. The library fund is reflected in the electronic catalog available to users on the site http://lib.ukgu.kz on-line 24 hours 7 days a week. Thematic databases of their own generation: "Almamater", "Proceedings of SKSU scientists", "Electronic archive" have been created. Online access from any device 24/7 via the external link http://articles.ukgu.kz/ru/pps. Catalogs are processed electronically. EC consists of 9 databases: "Books", "Articles", "Periodicals", "Proceedings of the teaching staff of SKSU", "Rare Books", "Electronic Fund", "SKGU in Print", "Readers" and "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 in the EIC subdivisions; through the information network of the university for faculties and departments; remotely on the library website http://lib.ukgu.kz/. Open access to international and republican resources: "SpringerLink", "Polpred", "Web of Science", "EBSCO", "Epigraph", to electronic versions of scientific journals in the public domain, "Zan", "RMEB", "Adebiet", Digital library "Aknurpress", "Smart-kitar", "Kitar.kz", etc. For people with special needs and disabilities, the library website has been adapted to the work of visually impaired users
Material and technical base	The department has the following auditoriums with a total area of 274 m2 Computer classes, classrooms, office of undergraduates and doctoral students. UNPK department- №2 trilingual specialized boarding school, gymnasium shool №99, «Orleu» branch of JSC NCPK «Orle» IPK PR in the Turkestan region and Shymkent, school-ginasia named after M. Auezov, Arys. The department is equipped with the following equipment: computers (Core 2 Quad, Intel Core 2 Duo), printer, scanner, local system, etc. In two computer classes of the department there are 33 computers, MFP 3 in 1 (copier, printer, scanner). In the computer room (302, 309), computers are connected to a network system.

APPROVAL SHEET

according to the Educational program 8D01510-Mathematics

Director of the DAA	A. Naukenova
Director of the DASc	U. Nazarbek
Director of the DE&C	T. Bazhirov