6B01502-MATHEMATICS-PHYSICS

The purpose of the educational program: Training of highly qualified teaching staff capable of carrying out professional activities in mathematics and physics in the following areas: education and formation of a comprehensively developed student personality; formation of knowledge in the field of mathematics and physics; organization of the pedagogical process in mathematics and physics within the updated content of education.

1.2 VISION, MISSION, PROGRAM GOAL, VALUES, UNIVERSITY GRADUATE ATTRIBUTES

Vision:

An intellectual platform that develops educators who are open to new ideas and able to lead in a rapidly changing world.

Mission:

Developing teacher leaders, who can create, develop, and disseminate advanced knowledge and values in education for the benefit our country and the world.

Program goal:

Our University aims to become a hub for innovative teaching, learning, research as well as the development of rural education in Central Asia.

Values:

Integrity, commitment, care.

University graduate attributes:

- Self-guided learners and reflexive practitioners
- Responsible personalities with moral and ethical values
- Professionals with deep subject knowledge and digital skills
- Creative and critical thinkers and excellent team players and communicators
- Adaptive leaders in teaching and learning
- Diverse, inclusive and for equality of opportunity in society

1.3. THE RATIONALE BEHIND THE EDUCATION PROGRAM

Topically of educational program. The basis of the educational program is the concept of the organization of the educational process, based on the choice of students of individual educational trajectories. The OP implements the miner “Smart Systems Engineering”. The training is aimed at the formation of professional competencies, expressed in the development of the personality of the students themselves, their scientific and technological outlook, the disclosure of the internal resources of individuality.

The pedagogical practices within the program are held in NIS schools, physical and mathematical schools, gymnasiums and lyceums. Graduates of the program become teachers recognized by the community with high academic mobility. Much attention is paid to professional English. Training is conducted in 3 languages.

Market Demand. In addition to state support for education, marketing is necessary as a real tool for the survival and development of educational institutions of all forms of ownership. Guarantees the stability of development of educational institutions. New research the research results provide specific guidelines for higher and further education

in accordance with the developed concept, including the analysis of structure and trends surrounding marketing environment, the mission of marketing education, composition and functions of the entities, principles and methods, description of educational services, since they form the offer of educational activities for training, retraining and advanced training of specialists.

In accordance with the order of the Minister of education and science of the Republic of Kazakhstan dated may 2, 2017 No. 204 "on approval of the Rules for conducting Unified national testing and comprehensive testing", 25 specialties of the group of educational programs are represented as profile subjects 1 and 2 out of 97 groups of educational programs. With this in mind, we can see the importance and necessity of physics in the field of secondary education. To meet these needs for the training of competitive, qualified, well-rounded, socially-oriented specialists, we can distinguish the following:

The ability to understand and behave with tolerance in a multicultural world, flexibility in communicating with other people, the ability to reach mutual understanding, find common goals and cooperate to achieve them;

Ability to understand the system of knowledge about fundamental laws and theories, physical values of phenomena and processes in nature and technology;

Ability to use modern software for processing various types of graphic information and implementing project activities using modern information and communication technologies;

Ability to present a clear calculation using information and communication technologies and a way to solve the natural science cycle;

Specialists in physical research to describe phenomena and processes in the environment.they are trained to provide General competencies, such as the ability to generalize results

1.4. GRADUATE CAREER OPPORTUNITIES

Additional education (Minor)	-

A graduate of the educational program 6B01502 - Mathematics- Physics can work as a mathematics teacher in educational and scientific institutions, institutions of additional education and educational centers.

1.5. GRADUATE CAREER OPPORTUNITIES

A graduate of the educational program 6B01501-mathematics can work as a mathematics teacher in educational and scientific institutions, institutions of additional education and educational centers.

1.6. AREAS OF PROFESSIONAL COMPETENCE

Bachelor of Education in the educational program 6B01501-Mathematics can perform the following types of professional activities:

- in the field of educational activities;
- in the field of research activities;
- in the field of socio-pedagogical activity.

Area of professional competence 1
In the field of educational activities: - organization of the process of training and development, training and education of students, design and management of the pedagogical process, correction, design, diagnostics of the results of pedagogical activity; - mastering the basics of pedagogical skills, which form professional qualifications in the field of mathematical disciplines;
Area of professional competence 2
In the field of research activities: - study of scientific and methodological literature; - study and generalization of advanced pedagogical experience in the field of mathematical education; - conducting a pedagogical experiment, introducing its results into the educational process;
Area of professional competence 3
In the field of socio-pedagogical activity: - the formation of a multicultural personality; - creation of favorable conditions for life, education and development of students and the provision of pedagogical support;

1.7. EDUCATIONAL PROGRAM LEARNING OUTCOMES:

LO 1 - Applies a variety of communication formats taking into account socio-cultural diversity, adheres to the principles of equality and accessibility in education, to create a prosperous and inclusive environment, has leadership qualities and is able to apply them to develop collective potential
LO 2 – Possess high-level critical and creative thinking skills, are capable of self-regulation and reflection to solve professional problems
LO 3 – Demonstrate knowledge of and adherence to ethical and legal norms in research and use of digital technologies. Apply security measures when working with digital information and data protection, promote the active, safe and ethical use of digital resources.
LO 4 – acquire fundamental knowledge in the field of mathematics and physics, form a subject worldview and a culture of thinking
LO 5 – They know the main directions and rules of application of mathematics, physics and can use information resources, modern methods of the subject area when solving problems
LO 6 – They use modern pedagogical technologies and ICT, demonstrate professional skills in teaching mathematics and physics, taking into account the principles of integration, strive to improve pedagogical skills
LO 7 – They are able to reflect on their own practice, adequately respond to constructive criticism and suggestions and make changes
LO 8 – Understand physical phenomena, processes and patterns in professional activity, using the basics of theoretical and practical knowledge in the branches of physics
LO 9 – They build mathematical models of applied problems using knowledge integration skills in various branches of mathematics.

Matrix for correlating EP learning outcomes with graduate attributes

	LO 1	LO 2	LO 3	LO 4	LO 5	LO 6	LO 7	LO 8	LO 9
GA1			+		+			+	+
GA 2		+		+	+	+	+	+	+
GA 3		+	+		+	+	+		
GA 4	+	+		+	+		+	+	
GA 5	+		+				+		
GA 6	+				+			+	

1.8. REFERENCES

The educational program is developed based on the following legal acts:

1) Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 No. 2 "On approval of state compulsory standards of higher and postgraduate education".

2) Order and. O. Minister of Education and Science of the Republic of Kazakhstan dated December 15, 2022 No. 500 "On approval of the professional standard "Teacher".

3) order dated March 27, 2023 No. 125 "On the approval of methodological recommendations for the organization and conduct of pedagogical practice for students in the educational field "pedagogical sciences"