6B01505- PHYSICS-COMPUTER SCIENCE

The purpose of the educational program: Training of highly qualified teacher of physics, with high social and civic responsibility, able to carry out professional activities

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

The educational process in the unity of its value-target orientations, content, methods of forms and results, research, innovation, information and analytical activities in the field of physics, pedagogy, psychology and teaching methods, the technological process of designing, the introduction of physical research methods.

1.4. DISTINCTIVE FEATURES OF THE EDUCATIONAL PROGRAM

Academic mobility	- Western International College (UK) - South Kazakhstan state University named after M. Auezov; - Aktobe regional state University. Zhubanova; - South Kazakhstan state pedagogical University; - Korkyt ATA Kyzylorda state University.

Coincidence with similar EP of leading universities in the near and far abroad

- New York University (43rd place among the top 100 universities in the world) - 58%,

- University of Michigan (21st place among the top 100 universities in the world) - 42%.

1.5. GRADUATE CAREER OPPORTUNITIES

Has the opportunity to get a job in universities, research institutes and educational institutions, scientific and public organizations of Kazakhstan and foreign countries. The scope of professional activity includes the duties of a researcher in general education schools, lyceums, gymnasiums, colleges, educational and administrative services, research institutes and research centers.

1.6. AREAS OF PROFESSIONAL COMPETENCE

Area of professional competence 1

innovative activity in the field of education and its implementation

Area of professional competence 2

research work, socio-political, cultural and educational centers

Area of professional competence 3

public, state and non-governmental institutions and organizations

Area of professional competence 4

professional teaching, information and analytical activities in research projects.

1.7. LEARNING OUTCOMES OF THE EDUCATIONAL PROGRAM

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– Demonstrates knowledge and understanding of computer hardware and system software, computer architecture.

LO 5 – Demonstrates knowledge of the physical and mathematical apparatus, the theory of computer science, computer modeling methods, theoretical, computational and experimental research methods in the course of professional activity;

LO 6 – Creates algorithms and develops computer programs, interface design and mobile applications for solving applied problems, including those related to robotics programming in the field of education.

LO 7 – Forms a scientific view of the fundamental laws and principles of physics that define the modern scientific picture of the world;

LO 8 – Solves complex, experimental, research, Olympic problems in general and theoretical physics with the help of a mathematical apparatus;

LO 9 – Uses the content and methodological aspects of teaching computer science and evaluates the achievements of students in the development of critical thinking, is able to manage the educational process

LO 10 – Owns the methodology of organizing and conducting physical experiments in compliance with the rules of operation and safety of laboratory devices in physics.

LO 11 – Understands physical phenomena based on fundamental theories and laws of physics and astronomy.

LO 12 - Demonstrates knowledge on storage, search, processing of graphic information, develops methods of database design and algorithm analysis.

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	LO 10	LO 11	LO 12
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) On the approval of the state mandatory standards of higher and postgraduate education

Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 No. 2.

2) On the approval of the professional standard "Teacher"

Order of the Acting Minister of Education and Science of the Republic of Kazakhstan No. 500 dated December 15, 2022.

3) Order No. 125 dated 03/27/2023 "On approval of methodological recommendations on the organization and conduct of pedagogical practice for students of the educational field "pedagogical sciences".