

1. CHARACTERISTIC OF THE EDUCATIONAL PROGRAM

The purpose of the educational program: Training competitive and professionally competent specialists for the education system of the Republic of Kazakhstan, who possess deep theoretical and practical knowledge in the field of biology teaching and are proficient in modern pedagogical methods...

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 of 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

THE RATIONALE BEHIND THE EDUCATION PROGRAM

In the context of the Education Modernization Project funded by the World Bank, several universities providing pre-service teacher education have designed and revised in international collaboration thirty (30) pre-service teacher education curricula according to the principles of competence-based education that ensure a holistic development of pre-service teachers' competences. Moreover, the student-centered approach better prepares pre-service teachers to teaching profession by providing practical examples, experiments and experiences, which pre-service teachers can transfer to their classroom practices considering better the versatile needs and wellbeing of their students.

In order to match the requirements of the renewed primary and secondary education, teachers' professional competences need to be re-evaluated and completed. The new approaches in secondary education need to be reflected in pre-service teacher education and the pre-service teachers' profiles. Furthermore, these thirty (30) revised or new pre-service teacher education curricula have been designed to better improve pre-service teachers' various generic competences that are essential in teacher's profession. Several important and cross-cutting pedagogical principles that Kazakhstan education system aims to develop, such as inclusiveness and interdisciplinarity, have been taken into consideration in the design and implementation of the curricula. In addition, these curricula emphasize the development of pre-service teachers' research skills in a way that they become practitioners who are constantly reflecting and evaluating their own practices and the practices of their schools to develop their own work and their work community, and the whole sector of education.

DISTINCTIVE FEATURES OF THE EDUCATIONAL PROGRAM

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| 1. The EP is aimed at educating a qualified biology teacher who is able to use innovative technologies, including STEM-, CLIL-, IT-technologies in professional activities. |
| 2. Pre-service teachers possess pedagogical and subject competences in the field of conceptual and theoretical knowledge, and in conducting scientific research and applying it in science |

GRADUATE CAREER OPPORTUNITIES

Competence-based teacher education curriculum

The competence-based teacher education curriculum is formed of three entities: 1) Pedagogical studies, 2) Subject component 3) Subject component, University component. Each of the entities includes modules and related courses. The courses' learning outcomes describe the competences required in teaching work and are placed in the NQF system's (National Qualifications Framework) reference level six.

The curriculum is guided by the following main principles:

- Competence-based learning
- Constructive alignment
- Student-centred learning and active learning methodologies
- Research-based teaching
- Interdisciplinary learning
- Inclusion
- Teacher professional development and change management

Educational programme (EP) "*Biology*" is a teacher education programme for Pre-service teachers who wish to specialize in teaching biology in educational establishments (schools, colleges, high schools).

AREAS OF PROFESSIONAL COMPETENCE

The Bachelor of Education on the educational program 6B01516 – Biology IP can perform the following types of professional activities:

Areas of professional competence 1

1. Pre-service teachers have basic knowledge and understanding of learning and students and are able consider the diversity of students in learning/teaching process and support their well-being in psychologically and ethically sound manner considering their life and learning contexts.
2. Pre-service teachers are capable to design, implement, assess, and develop learning and guidance processes in different kinds of learning environments in a pedagogically meaningful way including ability to utilize different digital resources in a manner that supports learning.

Areas of professional competence 2

1. Pre-service teachers know and understand the theoretical foundations of biology and science disciplines, current trends in the development of biology, use knowledge of the diversity and functioning of biological systems, their diversity and evolution.
2. Pre-service teachers form a holistic view of the natural science picture of the world, using forms and methods of scientific knowledge.
3. Pre-service teachers understand the biological nature and social essence of human beings, the level organization of living nature, demonstrate a scientific understanding of the world, a healthy lifestyle, environmental and genetic literacy.

Areas of professional competence 3

1. Pre-service teachers are able to assess the surrounding reality on the basis of ideological positions, formed by a knowledge of the fundamentals of philosophy, which provide scientific understanding and study of the natural and social world by methods of scientific and philosophical knowledge.

2. Pre-service teachers are capable to interpret the content and specific features of the mythological, religious and scientific worldview
3. Pre-service teachers have deep understanding and scientific analysis of the main stages, patterns and characteristics of the historical development of Kazakhstan.
4. Pre-service teachers are able to analyse the causes and consequences of the events in the history of Kazakhstan.

EDUCATIONAL PROGRAM LEARNING OUTCOMES

LO 1 - To develop own moral and civic position, acting in accordance with the social, business, cultural, legal and ethical standards of the Kazakh society, using the foundations of socio-political, economic and legal knowledge, demonstrating personal and professional competitiveness

LO 2 - To assess situations in various areas of interpersonal, social and professional communication in oral and written forms in the state, russian and foreign languages using analytical and critical thinking to develop language competencies

LO 3 - To use various types of information and communication technologies, modern methods of processing and synthesizing information in the field of scientific and pedagogical research

LO 4 - To focus on a healthy lifestyle to ensure the sustainable development of society and nature, full-fledged social and professional activities

LO 5 - To develop and apply methods of teaching, education, assessment in various types of educational environment, taking into account the principles of student-centered, competence-based, inclusive approaches

LO 6 - To carry out the choice of methodology and analysis for planning, conducting, collecting and processing data from laboratory and field studies

LO 7 - To build professional relationships for constructive pedagogical and social activities, own pedagogical development and well-being

LO 8 - To integrate knowledge of related sciences necessary for everyday professional activities and the formation of functional literacy of students

LO 9 - To use conceptual theories and laws of natural sciences to explain patterns, phenomena and processes in nature, to form a holistic view of the natural science picture of the world

LO 10 - To use the fundamental basics of biology and modern trends in its development, knowledge about the diversity and functioning of biological systems, their vast variety and evolution

LO 11 - To analyze the level organization of wildlife, the biological nature and social essence of a person, to demonstrate a scientific worldview, environmental and genetic literacy

LO 12 - To create and offer solutions to non-standard problems, to model and carry out biological and pedagogical research using the skills of academic writing, the principles of academic honesty

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	+	+	+		+				+	+	+	

REFERENCES

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

- 1) The State Compulsory Standard of Higher and Postgraduate Education, approved by Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 No. 2. Registered with the Ministry of Justice of the Republic of Kazakhstan on July 27, 2022 No. 28916.
- 2) The professional standard "Teacher", approved by order of the acting Minister of Education of the Republic of Kazakhstan dated December 15, 2022 No. 500. Registered with the Ministry of Justice of the Republic of Kazakhstan on December 19, 2022 No. 31149.
- 3) Methodological recommendations for organizing and conducting pedagogical practice for students in the field of education “pedagogical sciences. Order No. 125 dated 03/27/2023