1. CHARACTERISTIC OF THE EDUCATIONAL PROGRAM

The purpose of the educational program: Training the doctors of philosophy (PhD) having profound theoretical knowledge in the field of biology, who are able to apply innovative scientific, research and pedagogical methods and technologies.

1.1 GENERAL INFORMATION

Type of educational program	current
Name of the educational program	8D01504-BIOLOGY
Field of education	8D01 Pedagogical Sciences
Training direction	8D015-Teacher Training in Natural Science
The group of the educational program	D014-Teacher Training in Biology
License to engage in educational activities	The Educational program is implemented on the basis of the Appendix to the License № KZ75LAA00018542 dated August 04, 2020 in the direction of training 8D01504-Biology, issued by the Committee for control in the field of education and science of Ministry of Education and Science of the Republic of Kazakhstan.
Number and Date of Registration/ Update in the Register of EP	«26» 01 2022 y, №8D01500026
UNT Subjects	-
Educational level by NQF	Doctoral degree, level 7
Awarded degree	Doctor of philosophy (PhD) in the educational program «8D01504-Biology»
Accreditation	Independent agency of accreditation and rating IAAR, certificate No. 12018901 of 24.05.2019, Period of validity of the certificate: 24.05.2019-23.05.2024.
Rating of the educational program	IAAR: 1rd place *out of 4, 2019*
The total amount of academic credits	180
Study duration	3 years

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 relevance of the EP.

A feature of the education of the twenty-first century is its integrative character. Currently, the education system requires specialists on one's own reacting and responsibly acting toward the future, understanding their development as a value, receiving permanent, continuous education. The conditions of implementation of a new educational paradigm require the formation of abilities to fast and qualitative analysys of information, identification their significance and application of their own knowledge in practice.

Professional teachers' training in natural-science disciplines is aimed at formation of key competences in the field of pedagogical sciences. For our State, the need for practical training of specialists in biology with knowledge of the basics of work in research institutes, departments of education, as well as in higher educational institutions as a teacher of biology is considered very relevant.

The educational program is designed to train highly qualified personnel with advanced knowledge in the field of educational biology, who have knowledge of the directions of modern biology and who are able to apply the obtained competences in the scientific and pedagogical sphere. The basis of the educational programme is the training the pedagogical personnel able to carry out expertise of scientific projects and research, perform teaching, research, organizational and technological, production and management, up-bringing, cultural and educational work.

Market demand.

Qualitative and quantitative composition of teachers of full-time state comprehensive schools of the Republic of Kazakhstan (without co-workers) is 296,960, 9,648 of them are biology teachers. Mainly, in Turkestan region – 1,928 and in Almaty region – 1,183 teachers. The lowest availability of biology-teachers was found in rural districts of such areas as Mangistau (312 persons) and in Atyrau (356 persons).

The need for teaching staff of full-time state comprehensive schools is 4,952, 129 of them are for biology. http://iac.kz/sites/default/files/nacionalnyy_sbornik_2017-2018.pdf

Due to the transition from 2019-2020 of high school to study of subjects of natural science cycle in English, the need for pedagogical personnel in biology amounted to 15,773 persons. (Source: https://www.zakon.kz/4891274-trehyazychnoe-obuchenie-v-kazahstane.html)

1.4. DISTINCTIVE FEATURES OF THE EDUCATIONAL PROGRAM

Academic mobility	-
Double-degree program	-

Coincidence with similar EP of leading universities in the near and far abroad Moscow State University named after MV Lomonosov - 65%;
Herzen State Pedagogical University of Russia- 37%;
University of Rhode Island - 62%

1.5. GRADUATE CAREER OPPORTUNITIES

Doctor of philosophy (PhD) in the educational program «8D01504-Biology» can perform the following professional activities:higher education institutions, public administration bodies in the field of education, biological industry, institutions of control and analytical service, standardization and certification centres. Bodies of natural resources and environmental protection.

1.6. AREAS OF PROFESSIONAL COMPETENCE

Area of professional competence 1
- educational and pedagogical: working as teachers of biology in higher educational institutions of the state and non-state sector;

Area of professional competence 2
- organizational and managerial, working as heads of departments and various services in scientific organizations, research institutes, as well as various departments and departments of biological, pharmaceutical industries, as well as environmental services;

Area of professional competence 3
-production and technological: working in the institutions of the above profiles - research and experimental research: working as specialists and researchers in the laboratories of biological, environmental, pharmaceutical, biotechnological profile.

1.7. EDUCATIONAL PROGRAM LEARNING OUTCOMES:

LO 1 - recognize themselves as citizens of the world and responsible members of the digital society, promote the safe use of digital information and technologies, compliance with ethical and legal standards.

LO 2 – use the principles of self-regulation, are reflective in all aspects of life, adhere to an active lifestyle, demonstrate openness to new knowledge, and have an exploratory inquisitiveness to receive and analyze information.

LO 3 – able to easily communicate in different communities, in 3 languages, have the skills to effectively convey ideas, know how to manage a team and be part of it, create an inclusive environment, are adaptive and open to new knowledge.

LO 4 – A graduate applies the written features of the style of scientific work, design, editing of academic text, basic principles, rules and standards in the synthesis of research results;

LO 5 - A graduate analyzes the scientific fundamentals of biological research methods using innovative ideas.

LO 6 – A graduate defines the process of integration of knowledge of natural sciences, system of logic and methods of scientific research.

LO 7 – A graduate forms in-depth science-based knowledge through analysis of topical problems of modern botany and mycology.

LO 8 – A graduate forecasts the prospects of using the nano-cluster structures, modern advances in molecular biology and genetic engineering.

LO 9 – A graduate applies at the professional level modern paradigm and innovative

technologies in biological education and methods of scientific and pedagogical research.

LO 10 – A graduate concretizes the importance of scientific views in the knowledge of the natural-scientific image of the universe and the connections between fundamental and applied sciences.

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
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) State general educational standard of postgraduate education. Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 No. 2.

2) Professional standard "Teacher". Acting order Minister of Education of the Republic of Kazakhstan dated December 15, 2022 No. 500.