

1. CHARACTERISTIC OF THE EDUCATIONAL PROGRAM

The purpose of the educational program: To train professional biologists with modern knowledge in the field of fundamental and applied biology, ready for professional activities in the scientific and industrial spheres.

1.1 GENERAL INFORMATION

Type of educational program	current
Name of the educational program	6B05101-Biology
Field of education	6B05 Natural sciences, mathematics and statistics
Training direction	6B051 Biological and related sciences
The group of the educational program	B050 Biological and related sciences
License to engage in educational activities	Republican state institution "Committee for Quality Assurance in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan" № KZ75LAA00018542 dated August 04, 2020.
Number and Date of Registration/ Update in the Register of EP	№ _____ « ____ » _____ 2024
UNT Subjects	1Biology 2 Chemistry
Educational level by NQF	Bachelor's Degree, level 6
Awarded degree	Bachelor of natural sciences in the educational program 6B05101 – Biology
Accreditation	Independent Agency for Accreditation and Rating, for the period of 24.05.2024 – 23.05 .2029. Registration number No. AB5194
Rating of the educational program	<i>Atameken:</i> 8/st place2021 3/st place2022
The total amount of academic credits	240
Study duration	4 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 educational program. For our state, the need for highly qualified for the scientific field is considered very relevant. The educational program 6B05101 - Biology offers a new approach to the formation of key competencies necessary for a graduate of a specialty in the direction of scientific and biological research.

1.4. DISTINCTIVE FEATURES OF THE EDUCATIONAL PROGRAM

Academic mobility	1. Niide Omer Halisdemir University (Republic of Turkey) 2. Karaganda University named after E. A. Buketov 3. Kyzylorda University named after Korkyt Ata 4. South Kazakhstan State Pedagogical University
Additional education (Minor)	1. The "Biologist-Researcher" educational program has an additional program (Minor) aimed at training future biologists, taking into account modern domestic and international experience, author's and collective scientific achievements and educational and methodological guidelines in the field of specialization, employer requirements and labor market needs. The goal of the program is to train highly qualified specialists with fundamental knowledge in the field of biological sciences, possessing communicative, research, managerial, creative and leadership qualities.

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

Coincidence with similar EPs of leading universities of far and near abroad. Stanford University – 21%, Belarusian State University – 52%, M.V. Lomonosov Moscow State University – 52%, Autonomous University of Sinaloa – 36%, Oakland University – 52%.

1.5. GRADUATE CAREER OPPORTUNITIES

Bachelors 6B05101-Biology can carry out the following types of professional activities:

- research: conducts research in various scientific and research and production institutions in specialized disciplines;
- carries out production and management activities in state structures of various levels;
- Carries out analyzes in medical laboratories.

Organizations that a graduate of the bottom EP can find a job:

- 1) scientific organizations: research centers in the field of biology, biotechnology;

- 2) management organization: government bodies using biological research methods in their work, organizations of various forms of ownership;
 3) medical laboratories.

1.6. AREAS OF PROFESSIONAL COMPETENCE

Area of professional competence 1

Can conduct applied and fundamental research in research centers in the field of biology and biotechnology; Can determine the morphological and physiological properties of microorganisms. Microorganisms are isolated from various substrates (water, air, soil, dairy products).

Area of professional competence 2

In the course of laboratory work, physicochemical and chemical methods are carried out (centrifugation, spectrophotometry, chromatography, titration, creation of a calibration table, preparation of solutions, passing through gel filters).

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 – Knows the laws of biodiversity distribution, the main directions for the effective use of renewable and non-renewable resources of the biosphere.

LO 5 – Forms the ability to identify botanical and zoological objects and work with them in the field and laboratory conditions.

LO 6 – Knows the basics of the mechanisms of cellular processes and the structural and functional tissues, organs and systems of the body. Able to perform microscopic examination of tissues.

LO 7 – Masters the methods of control, description, identification, systematization of biological objects;

LO 8 – Studies physiological, anatomical, biochemical methods for assessing living biological objects;

LO 9 – Critical thinking and knowledge of microbiology, molecular biology and genetics, working with databases from various sources

can do; Can perform systemic, molecular and statistical analysis;

LO 10 – Solves applied problems based on fundamental knowledge accumulated from the cycle of disciplines in the natural 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) Annex No. 2 to the order of the Acting Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" dated April 3, 2023 No. 65