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Higher and Postgraduate Educational Programs

☐ Project EP ☐ Participant of project EP

Date of registration in the Registry

16.08.2019

Registration number

8D01500029

Date of EP passport updating

01.06.2026 15:57

Field of education

8D01 Pedagogical sciences

Direction of personnel training

8D015 Training of teachers in Natural science subjects

Group of educational programs

D014 Teacher training in biology (Kazakh, Russian, English)

Educational program

8D01503 Biology

EP purpose

Training of competitive personnel with pedagogical and professional and scientific competencies and skills for the practical and scientific activities with the award of the degree of doctor of philosophy (PhD) to meet the needs of s field of biology.

EP type

Acting EP

Level on NQF

8

Level on SQF

8

EP distinctive features

No

Language of education

☐ multilingual ☒ English

Professional Standard for EP

Exists

№	Name of professional standard
1	Professional standard: Teacher (faculty) of higher and (or) postgraduate education organizations

Professional standards (career standards)

Professional standard has been used at developing EP ☒

Professional standard №1

Professional standard

Профессиональный стандарт: для пед



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CCEA

Professions

Profession №1

Profession

Преподаватель, ассистент профессор

Уровень по ОРК

8

Labor functions

- Взаимодействие со стейкхолдерами высшего и послевузовск
- ОбучениеСоциализация обучающейся молодежи
- Проведение научных исследований
- Осуществление научно-методической работы

Volume of the credits

180

Degree to be conferred

Doctorate

Period of study

3

Date of approval EP on the Academic Council

27.04.2026

☒Existence of the annex to the license for the direction of personnel training

The license number on the direction of training

KZ49LAM000007465

☐The training format is online

☒EP accreditation existence

Atlas of new professions

не предусмотрено

Regional standard

не предусмотрено

The formed educational outcomes

№	Educational outcome	Code	Reflects the labor function
1	To implement a comprehensive scientific research process in the	ON1	Проведение научных исследований
2	To master the basic principles and research methods in cellular	ON2	ОбучениеПроведение научных исследованийОсуществление научно-методической работыСоциализация обучающейся молодежи
3	To interpret biological research methods and analyze experimental	ON3	Проведение научных исследований
4	To analyze the mechanisms of physiological and biochemical	ON4	Проведение научных исследований
5	To develop educational and methodological materials using	ON5	Осуществление научно-методической работыСоциализация обучающейся молодежи

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6	To critically analyze contemporary scientific achievements, master the	ON6	Проведение научных исследований Осуществление научно-методической работы
7	To demonstrate a systemic understanding in the field of	ON7	Проведение научных исследований
8	To contribute original research to expanding the boundaries of the	ON8	Проведение научных исследований

Data on disciplines

Nº	Name of discipline	Short description of discipline	Cycle
1	Academic Writing	The discipline forms the practical skills of doctoral students in writing research academic materials, including in English, choosing literature for writing scientific papers, develops the ability to carry out professional activities related to finding information in scientific databases, analyzing and abstracting texts, working with various genres of academic writing.	BD
2	Methods of Scientific Research	The discipline is aimed at developing skills of working with sources of scientific research, developing scientific work, gaining experience in the process of conducting scientific and practical research, developing a competence-based approach to using methods of scientific knowledge, planning and organizing experimental work, processing results and their registration.	BD
3	Innovation Technologies in Biological Education and Scientific Research	The discipline is aimed at studying the scientific and methodological foundations of applying innovative technologies in the process of teaching biology and conducting scientific research. During the course, directions of digitalization of the educational process and the implementation of research-based approaches are considered, as well as methods of collecting, processing, and analyzing scientific data, the methodology of pedagogical research, the theoretical justification of scientific results, and the specifics of working with databases.	BD
4	Theory and Methodology of Biological Education	The discipline is aimed at studying the theoretical foundations and methodological approaches of biological education, modern concepts of teaching biology, principles of designing the educational process, as well as methods of organizing research and pedagogical activities. During the course, current issues in biological education, innovative teaching technologies, and the issues related to the formation of research competencies and the development of students' professional thinking are considered.	BD
5	Methodological Aspects of Biological Research	The discipline is aimed at studying the methodological aspects of biological research, modern approaches to the organization and conduct of scientific experiments, as well as the principles of planning and analyzing the research in the field of biology. During the study of the discipline, methods of collecting, processing and interpreting biological data, the issues related to the selection of research methods, theoretical substantiation of scientific results, academic integrity, and the application of innovative technologies in biological research are considered.	PD
6	Scientific Aspects Rational Use of Bioresources	The discipline is aimed at studying genetic erosion, the causes of loss of genetic diversity, as well as strategies for preserving the genetic diversity of plants and animals. During the course, issues of maintaining components of biological diversity in specially protected natural areas, including nature reserves, wildlife sanctuaries, national parks, and natural monuments, are considered, as well as the conservation of biodiversity in farming systems and household plots. Special attention is paid to the role of gene banks of biological resources in the preservation and restoration of the genetic pool of living organisms.	PD

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7	Artificial Intelligence in Education	practical aspects of the application of artificial intelligence in education, including modern digital technologies and intelligent learning systems. During the course, the possibilities of using AI for personalizing the educational process, developing adaptive learning systems, automating knowledge assessment, analyzing educational data, and supporting pedagogical decision-making are considered. Special attention is given to ethical issues of artificial intelligence use, the digital transformation of education, and the development of digital competencies of teachers and students.	PD
8	Cellular Biotechnology of Plants	The discipline is aimed at studying the history of the development of modern branches of cell biotechnology, their development trends, as well as scientific and practical achievements in the field of cell biotechnology, along with modern technologies, opportunities, and prospects for their large-scale application in industry. During the course, interdisciplinary connections are formed, and the areas of application of this field are considered, including its close relationship with cell, gene, and chromosome engineering, medical, agricultural, food, environmental biotechnology, and bioenergy.	PD
9	Biometric Processing of Experimental Data	The discipline is aimed at studying the methods of conducting field, laboratory-field, laboratory and other types of experiments, as well as the application of modern scientific research methods, processing and interpretation of experimental data in dissertation research. During the study of the discipline, the skills in writing scientific reports, abstracts and articles, preparing grant and competition applications, and the practical implementation of fundamental and applied scientific projects on current issues in biology and related sciences are developed.	PD