

THE SPECIFICATION OF THE EDUCATIONAL PROGRAM

1.1 GENERAL INFORMATION

Type of educational program	current
Name of the educational program	"7M01504-Chemistry "
Field of education	7M01 Pedagogical Sciences
Training direction	7M015 Training of teachers in natural science subjects
The group of the educational program	M013 Training teachers of Chemistry
License to engage in educational activities	The Educational program is implemented on the basis of the Appendix to the License № KZ04LAA00017104 dated September 27, 2019 in the direction of training 7M015 Training of teachers in natural science subjects («7M01504 Chemistry») 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	
UNT Subjects	
Educational level by NQF	level 7, Master's Degree
Awarded degree	Master of Education in the educational program «7M01504 Chemistry»"
Accreditation	
Rating of the educational program	State license: №12018901, 11.12.2012
The total amount of academic credits	120
Study duration	2 years

1.2 VISION, MISSION, PROGRAM GOAL, VALUES, UNIVERSITY GRADUATE ATTRIBUTES

Vision:

The University as a unique and prestigious scientific and educational center, contributing to the successful implementation of initiatives in education and science.

Mission:

Preparation of highly qualified pedagogical personnel who contributes professionally to the development of human capital of the country.

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, dedication to one's work, caring for others

The Purpose of the Educational Program: Preparation of competitive doctors of philosophy (PhD) who are capable of independent development in the professional sphere, who have deep knowledge of the theory, methodology and practice in the field of chemistry and possess the skills of research and teaching in the field of chemistry.

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

Justification:

The Relevance of the EP.

The relevance of EP is explained on the one hand by the active development of the chemical direction based on the integration of the two sciences taking into account interdisciplinary links. On the other hand, the competitiveness of double-profile personnel, including in education, is increasing.

The need of the market.

The need for teachers of chemistry is relevant, especially in the context of the updated content of secondary education, requiring a teacher who is motivated for his or her professional activity, mobile, socially active and in demand on the labor market.

The need for teachers in chemistry at daytime state general education schools in the Republic of Kazakhstan is 271 people, which indicates the need for training of teachers-chemists and biologists. Thus, despite the positive changes in the system of training and development of teachers, there are still a number of problems that negatively affect the attraction and retention of qualified teachers. In this regard, the Program provides measures to solve problems in the development of the country's pedagogical potential.

1.4. DISTINCTIVE FEATURES OF THE EDUCATIONAL PROGRAM

Academic mobility	
Double-degree program	
Additional education (Minor)	

By 2022, teacher training programmes will be fully updated to reflect the professional standard.
Coincidence with Similar Results of Leading Universities of Neighbouring and Distant Countries.
Kazan Federal University - 75 %
Sankt Petersburg state University - 75 %

1.5. GRADUATE CAREER OPPORTUNITIES

Types of Professional Activity: Doctors of education in the educational program «7M01504 Chemistry» can carry out the following types of professional activity:

- educational and pedagogical: working as teachers of chemistry in higher educational institutions of the state and non-state sector;
- organizational and managerial, working as heads of departments and various services in scientific organizations, research institutes, as well as various departments and departments of the chemical, pharmaceutical, metallurgical industries, and environmental services;
- production and technology: working in the institutions of the above profiles - research and experimental research: working as specialists and researchers in the laboratories of chemical, environmental, metallurgical, pharmaceutical, petrochemical, gas and coal profiles

1.6. AREAS OF PROFESSIONAL COMPETENCE

Employment Opportunity: Objects of professional activity:

- universities;
- Government bodies in the field of education, chemical industry;
- establishments of control and analytical services, centers of standardization and certification;
- Agencies of natural resources and environmental protection.

1.7. EDUCATIONAL PROGRAM LEARNING OUTCOMES:

LO 1 To present theoretical and methodological foundations of philosophy, management and management of personality psychology; theory and practice of speech professional communication in a foreign language.

LO 2 To explain the methods of management and evaluation of professional qualities of the individual, the system of relations of subjects of the organization of education; to present the results of research in a foreign language.

LO 3 To know and have the skills to apply knowledge in the field of pedagogy, psychology, be ready to ensure the protection of the life and health of students in the educational process and extracurricular activities.

LO 4 To know the fundamentals of physical and colloid chemistry, the thermodynamic bases of chemical processes.

LO 5 To know the main stages and patterns of development of chemical science, an understanding of the objective necessity for the emergence of new trends, knowledge about the system of fundamental chemical concepts and methodological aspects of chemistry, forms and methods of scientific knowledge, its role in the general educational professional training of chemists.

LO 6 To be able to compile thematic plans of elective courses in chemistry for specialized education in accordance with the curriculum of educational institutions, to develop the content and methodological equipment for this course

LO 7 To make a program of scientific research, justifying its goals and objectives; applying methodological tools in the process of scientific research; working with various sources of scientific and practical information; to develop research stages; analyzes the results, justifying recommendations and suggestions.

LO 8 To interpret and compare experimental data obtained using innovative forms of teaching chemistry, to be able to show the role of these forms in the formation of the competence of future specialists;.

1.4 Graduate Profile

KazNWTTU Graduate Attributes:

- AG1 – Deep professional knowledge and understanding of the field of study;
- AG2 – Emotional and social intelligence;
- AG3 – Adaptive to global challenges;
- AG4 – Leadership skills;
- AG5 – Entrepreneurial qualities, can identify and solve problems;
- AG6 – Demonstration of innovative thinking.

Matrix of Correlation of Learning Outcomes for the EP and the Attribute Graduates:

	LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8
AG1			+					+
AG2		+				+		
AG3				+			+	
AG4								
AG5				+	+			
AG6		+	+					