

The list of academic disciplines of the university component

6B01 - Pedagogical sciences

(Code and classification of the field of education)

6B015 - Training of teachers in Natural science subjects

(Code and classification of the direction of training)

0114

(Code in the International Standard Classification of Education)

B009 - Math teacher training

(Code and classification of the educational program group)

6B01513 - Mathematics (IP)

(Code and name of the educational program)

bachelor

(Level of preparation)

set of 2024

Developed

By the Academic Committee of the EP
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Reviewed

At a meeting of the Academic Quality Commission of the Natural and Mathematical of the faculty
Protocol No.3 "9" of January 2024
at the meeting of the Commission on Academic Quality
Recommended for approval by the Academic Council of the University
Protocol No. 6, dated June 6, 2024.

Approved

at a meeting of the University Academic Council by protocol No. 6/1 of January 19, 2024.

at a meeting of the University Academic Council by protocol No. 11 of June 28, 2024.

Abaistudies

Discipline cycle	Basic disciplines
Course	1
Credits count	2
Knowledge control form	Examination

Short description of discipline

Formation of a full-fledged, human-loving, humane, tolerant citizen who succumbs to the humanistic teachings of Abai. Education of deep love for Abai's thoughts about eternal values: reading, education, science, art, education, morality reflected in his poems and prose; reflection of the main sources that influenced the worldview of the poet-thinker.

Purpose of studying of the discipline

Familiarization with the works of the founders of Abai studies.

A deeper understanding of the content, meanings, artistic power of Abai's works, understanding the meaning and meaning of the poet's poetry, his artistic qualities, nutrients.

Learning Outcomes

ON 2 to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

ON 6 to comprehensively and objectively cover the main stages of the history, evolution of the forms of statehood and civilization of the Kazakh people, to know the methods of scientific research and academic writing, to understand the importance of the principles and culture of academic honesty

Learning outcomes by discipline

-to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

-to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in the life and educational context

- Knows about the life and work of the great thinker, classic poet Abai Kunanbayuly, the sources of the poet's poetry and the problems of the poet's worldview, worldview, personal perfection;

- can express critical opinions about the poet's works;

- independently deepen theoretical knowledge of Abai studies, comprehensively apply the acquired knowledge.

Be able to explain artistic phenomena of different eras and analyze the structure of works of art of different genres, defining universal values.

Prerequisites

School course

Postrequisites

Basic and profile disciplines of the EP

Age and physiological features of children's development

Discipline cycle	Basic disciplines
Course	1
Credits count	3
Knowledge control form	Examination

Short description of discipline

Objective: to monitor the development of students, plan and implement age-appropriate learning processes, taking into account the individual needs of students, creatively support universal learning and the well-being of students. Students can: Recognize individual starting points of different students, their learning potential and needs for specific support; consider the individual needs of their students for specific support, guidance, training and evaluation.

Purpose of studying of the discipline

Formation in students of correct, scientific knowledge in ontogenesis, different points of view on important issues of psychology and physiological development in the aspect of cultural development of human mental and physiological development. Providing students with theoretical and practical training, which helps strengthen their professional psychological, pedagogical and physiological training, deepening the psychological and physiological faculty of education.

Learning Outcomes

ON 1 possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities purposefully use means and methods that ensure the preservation and strengthening of health in professional activities

ON 2 to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

ON 4 to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in the life and educational context

Learning outcomes by discipline

- possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities; purposefully use means and methods to ensure the preservation and strengthening of health in professional activities.

- to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development;

- to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in a life and educational context;

Students can: Recognize individual starting points of different students, their learning potential and needs for specific support; consider

the individual needs of their students for specific support, guidance, training and evaluation.

Prerequisites

School course

Postrequisites

Basic and profile disciplines of the EP

Training Practice

Discipline cycle	Basic disciplines
Course	1
Credits count	2
Knowledge control form	Total mark on practice

Short description of discipline

This course is aimed at developing the following areas of pedagogical competence:

- Competencies in the field of pedagogy and didactics (1, 2)
- Area of competence for interaction (3, 4, 5)
- Area of competence for the working environment of teachers (6, 7)

Area of competence for professional development (8, 9, 10)

Purpose of studying of the discipline

The purpose of this course is to familiarize future teachers with the educational process and the situation in the organization of education and their adaptation to the conditions of future professional activity.

Learning Outcomes

ON 2 to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

ON 10 to apply theoretical and practical knowledge to solve educational, practical and professional problems in the field of mathematical education, to design the conditions of educational activity in accordance with the set goals of teaching mathematics, using modern pedagogical technologies

ON 12 to systematize and generalize the acquired knowledge in mathematics for their application in future professional activities, to model educational processes for conducting research, experiments and obtaining their results

Learning outcomes by discipline

– to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development;

– apply theoretical and practical knowledge to solve educational, practical and professional problems in the field of mathematical education, design the conditions of educational activity in accordance with the set goals of teaching mathematics using modern pedagogical technologies;

– to systematize and generalize the acquired knowledge in mathematics for their application in future professional activities, to model educational processes for conducting research, experiments and obtaining their results.

Future teachers demonstrating competence can:

-understand the regulatory and legislative framework of the education system of the Republic of Kazakhstan, documents regulating the activities of educational organizations;

-distinguish between the main documents for maintaining school documentation (work plans of the educational institution, the electronic diary "Kundelik", short-term, medium-term and long-term study planning, etc.);

- to understand the theoretical and applied aspects of pedagogy and psychology in the educational process, taking into account the social, age, psychophysical and individual characteristics of students, as well as their special educational needs.

Prerequisites

Age and physiological features of children s development

Postrequisites

Teaching Practice

Education Science and Key Learning Theories

Discipline cycle	Basic disciplines
Course	2
Credits count	4
Knowledge control form	Examination

Short description of discipline

Future teachers study the basics of pedagogical science, such as conceptual ideas about a person, leading to various learning theories and pedagogical models. Based on an understanding of theoretical concepts, future teachers can make appropriate pedagogical choices for various learning situations.

Purpose of studying of the discipline

The purpose of this course is to improve pedagogical competence in the field of pedagogy and didactics.

Learning Outcomes

ON 1 possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities purposefully use means and methods that ensure the preservation and strengthening of health in professional activities

ON 2 to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

ON 4 to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in the life and educational context

Learning outcomes by discipline

– possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities; purposefully use means and methods to ensure the preservation and

strengthening of health in professional activities.

– to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development;
– to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in a life and educational context;

- Mastering modern educational technologies: Students will be ready to use modern technologies and innovative approaches in the learning process.

- Creating a supportive educational climate: Students will be able to create a safe and supportive educational space that promotes the success of each student.

Prerequisites

School course

Postrequisites

Basic and profile disciplines of the EP

Psychology, interaction and communication in education

Discipline cycle	Basic disciplines
Course	2
Credits count	5
Knowledge control form	Examination

Short description of discipline

Future teachers will contribute to the favorable development of students by promoting dialogue, interaction and communication in the educational process. They are able to interact, interact and cooperate with the families of students, as well as within the framework of other types of partnership and create new relationships favorable for the development of their teaching activities.

Purpose of studying of the discipline

mastering modern psychological theories and models, the functioning of personality and its personal qualities.

Learning Outcomes

ON 1 possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities purposefully use means and methods that ensure the preservation and strengthening of health in professional activities

ON 2 to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

ON 4 to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in the life and educational context

Learning outcomes by discipline

– possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities; purposefully use means and methods to ensure the preservation and strengthening of health in professional activities.

– to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development;

– to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in a life and educational context;

1. Effective interaction with students: Students will be able to establish productive interaction and dialogue with students, creating an atmosphere of trust and openness in the classroom.

2. Creating a positive educational climate: Students will master classroom management techniques and learn how to create favorable learning environments that promote student activity and self-expression.

3. Readiness for professional activity: Students will be ready to solve a variety of professional tasks and situations, including inclusive education and work with children with special needs, which will allow them to effectively adapt to various educational contexts.

Prerequisites

School course

Postrequisites

Basic and profile disciplines of the EP

Teaching Practice

Discipline cycle	Basic disciplines
Course	2
Credits count	2
Knowledge control form	Total mark on practice

Short description of discipline

This course is aimed at developing the following areas of pedagogical competence:

-Competence in the field of pedagogy and didactics (1, 2)

-Area of competence for interaction (3, 4, 5)

-Area of competence for the working environment of teachers (6, 7)

-Area of competence for professional development (8, 9, 10)

Purpose of studying of the discipline

The purpose of this course is to familiarize future teachers with the features of the holistic pedagogical process of an educational institution and the formation of analytical-reflective, research, design and other skills in the field of psychological and pedagogical support of the educational process.

Learning Outcomes

ON 2 to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development
ON 10 to apply theoretical and practical knowledge to solve educational, practical and professional problems in the field of mathematical education, to design the conditions of educational activity in accordance with the set goals of teaching mathematics, using modern pedagogical technologies

ON 12 to systematize and generalize the acquired knowledge in mathematics for their application in future professional activities, to model educational processes for conducting research, experiments and obtaining their results

Learning outcomes by discipline

- to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development;
- apply theoretical and practical knowledge to solve educational, practical and professional problems in the field of mathematical education, design the conditions of educational activity in accordance with the set goals of teaching mathematics using modern pedagogical technologies;
- to systematize and generalize the acquired knowledge in mathematics for their application in future professional activities, to model educational processes for conducting research, experiments and obtaining their results.

Future teachers demonstrating competence can:

- understand the psychological and pedagogical foundations of learning strategies (critical thinking, functional literacy, co-education, self-education, self-improvement, criterion-oriented learning)
- apply methods of psychological and pedagogical diagnostics to evaluate a group of students and understand how psychological support services of an educational organization function
- to understand the work of a teacher in a socio-pedagogical aspect and to realize ones own professional identity as a future teacher;
- to establish an effective dialogue to strengthen the positive and responsible behavior of students in the learning process;
- cooperate with all stakeholders in the educational process;
- analyze and develop a holistic pedagogical process in its various forms (lesson, seminar, round table, debate, etc.), conduct various forms of extracurricular activities on the subject.

Prerequisites

Pedagogical research

Postrequisites

Basic and profile disciplines of the EP

Pedagogical research

Discipline cycle	Basic disciplines
Course	2
Credits count	5
Knowledge control form	Examination

Short description of discipline

This course provides future teachers with a theoretical basis for pedagogical research. Future teachers have the skills to search for and critically select theoretical knowledge from various reliable sources, use research results in the development of their pedagogical thinking and practice, and are willing to contribute to research-based learning and education, as well as their own continuous development and professional growth.

Purpose of studying of the discipline

The purpose of this course is to improve the following areas of pedagogical competence:

- Area of competence for professional development (10)

Learning Outcomes

ON 1 possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities purposefully use means and methods that ensure the preservation and strengthening of health in professional activities

ON 2 to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

ON 4 to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in the life and educational context

Learning outcomes by discipline

- possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities; purposefully use means and methods to ensure the preservation and strengthening of health in professional activities.
- to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development;
- to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in a life and educational context;
- be aware of the nature of pedagogy and its basic terminology.
- Recognize the central areas of research in pedagogy and understand the difference between everyday thinking and scientific knowledge.
- distinguish between cultural concepts of human nature and their significance for the work of a teacher.
- Adopt changes in the field of education, taking into account the prospects for their development.

Prerequisites

School course

Postrequisites

Basic and profile disciplines of the EP

Inclusive educational environment

Discipline cycle	Basic disciplines
Course	3
Credits count	4
Knowledge control form	Examination

Short description of discipline

Goal: understanding and the ability to take into account the diversity of students in the learning/teaching process, in a reasonable way, psychologically and ethically maintain well-being, taking into account the context of their lives. Students can:

- Embrace diversity, identify barriers to participation and learning
- identify development priorities, plan activities for the adaptation of educational programs, the development of differentiated lessons.

Purpose of studying of the discipline

The main goal of studying the discipline is to teach future specialists the principles and methods of inclusive education, as well as to develop students' skills in accepting and supporting diversity in the educational process.

Learning Outcomes

ON 1 possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities purposefully use means and methods that ensure the preservation and strengthening of health in professional activities

ON 2 to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

ON 4 to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in the life and educational context

Learning outcomes by discipline

– possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities; purposefully use means and methods to ensure the preservation and strengthening of health in professional activities

– to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development;

– to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in a life and educational context;

- to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

- ritically select theoretical knowledge based on advanced concepts of pedagogical education using various information and communication technologies and use the knowledge to improve the skills of teaching mathematics and their own professional growth

- o recognize and understand fundamental scientific concepts that have fundamental methodological and theoretical significance for understanding and mastering natural and mathematical sciences, to argue their own position of applying and integrating knowledge from other fields of sciences to solve global and local problems of mathematical education

Prerequisites

School course

Postrequisites

Basic and profile disciplines of the EP

Education Science and Key Learning Theories

Discipline cycle	Basic disciplines
Course	3
Credits count	4
Knowledge control form	Examination

Short description of discipline

Future teachers have a deep understanding of the importance of assessment in the learning process and are able to provide constructive assessment in an ethical manner at various stages of the learning process and involve students in assessment. Future teachers define, differentiate and use various assessment technologies, principles, stages, tools for evaluating their field of knowledge (including formative and summative assessment and self-assessment and mutual assessment, etc.). They are able to critically evaluate and analyze their understanding and practice regarding assessment, and develop them further.

Purpose of studying of the discipline

The purpose of this course is to improve the following areas of pedagogical competence:

-Competencies in the field of pedagogy and didactics (2)

Learning Outcomes

ON 1 possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities purposefully use means and methods that ensure the preservation and strengthening of health in professional activities

ON 2 to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

ON 4 to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in the life and educational context

Learning outcomes by discipline

– possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities; purposefully use means and methods to ensure the preservation and strengthening of health in professional activities

– to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development;

– to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in a life and educational context;

Future teachers who demonstrate competence can:

-be well versed in a variety of assessment and feedback methods (formative and final assessment);

-apply pedagogical principles to determine and recognize the levels of educational competence of students;

-understand the importance and support the development of self-assessment skills of students and colleagues.

Prerequisites

Psychology, interaction and communication in education

Postrequisites

Basic and profile disciplines of the EP

Pedagogical methods

Discipline cycle	Basic disciplines
Course	3
Credits count	6
Knowledge control form	Total mark on practice

Short description of discipline

The content of psychological and pedagogical practice is aimed at forming an idea about the peculiarities of the organization of the educational and pedagogical process and the management system in the holistic pedagogical process of the school. The student gets acquainted with all types and directions of the teacher's activities, including the system of work of the class teacher, observation during lessons and extracurricular activities, psychological and pedagogical diagnostics of the age characteristics of the development of students, conducts psychological and pedagogical educational work.

Purpose of studying of the discipline

The purpose of pedagogical practice is the formation of professional pedagogical competencies related to the design and implementation of the educational process of teaching in the education system, providing conditions for the social and professional adaptation of students, mastering the norms and values of the teaching profession, gaining experience in practical pedagogical activity, becoming a professional orientation of their personality.

Learning Outcomes

ON 1 possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities purposefully use means and methods that ensure the preservation and strengthening of health in professional activities

ON 2 to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

ON 4 to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in the life and educational context

Learning outcomes by discipline

Будущие учителя осваивают навыки поиска и критического отбора теоретических знаний из множества достоверных источников, используя результаты научных исследований в развитии своего педагогического мышления и практики. Демонстрирует готовность обеспечить научно обоснованную подготовку и образование, а также способствовать собственному постоянному развитию и профессиональному росту.

ON2 Apply modern teaching technologies and criteria-based assessment, taking into account the individual, physiological and psychological characteristics of students

Prerequisites

Psychology, interaction and communication in education

Postrequisites

Mathematically based teaching method

Innovation and Research in Education

Discipline cycle	Profiling discipline
Course	4
Credits count	15
Knowledge control form	Total mark on practice

Short description of discipline

The study of the discipline is based on the pedagogical training of students received during the study of the Bachelors degree program in physics and mathematics education

Purpose of studying of the discipline

The purpose of mastering the academic discipline "Innovation and research in education" is the development of professional competencies that implement the innovative nature of activities in higher professional education.

Learning Outcomes

ON 1 possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities purposefully use means and methods that ensure the preservation and strengthening of health in professional activities

ON 2 to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development

ON 4 to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in the life and educational context

Learning outcomes by discipline

RO1 – possess intercultural and communicative competence, apply skills of independent continuation of further education and build professional relationships in pedagogical and social activities; purposefully use means and methods to ensure the preservation and strengthening of health in professional activities

PO2 – to collect and interpret information for the formation of knowledge, taking into account social, ethical and scientific considerations, critically evaluate their values, attitudes, ethical principles and teaching methods, set new goals for their own pedagogical development;

RO3 – critically select theoretical knowledge based on advanced concepts of teacher education using various information and communication technologies and use the knowledge to improve math teaching skills and their own professional growth;

RO4 – to understand the psychological and pedagogical problems of teaching and educating students with disabilities in inclusive education, to take into account the diverse abilities of students in the learning process, to ethically support their psychological well-being in a life and educational context;

•identify educational and professional tasks for the organization of their own activities.

•to use and develop methods and technologies in the educational process.

• to introduce innovative techniques into the pedagogical process

Prerequisites

Basic and profile disciplines of the EP

Postrequisites

Final examination