NJSC SHAKARIM UNIVERSITY OF SEMEY

DEVELOPMENT PLAN EDUCATIONAL PROGRAM

7M01501- Mathematics

Semey

NPJSC «Shakarim University of Semey»

Approved by
Member of the Board –
Vice-Rector for academic affairs
_____ Indira Oralkhanova
«08» 06 2023 y.

7M01501 Mathematics
Educational program development plan
for 2023-2025 years

Semey, 2023

Content

1. Passport of the educational program development plan 7M01501 - Mathematics

1	The basis for the development	- "On approval of the Rules for the organization of the educational process on credit technology of education" Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 12, 2018 No. 563. On amendments to the Order of the Minister of Education and Science of the Republic of Kazakhstan dated April 20, 2011 No. 152; - "On approval of Standard Rules for the activities of educational organizations of appropriate types" Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 30, 2018 No. 595; - The Strategic Development Plan of Shakarim University for 2021-2025, approved by the Academic Council on September 24, 2020 Protocol No. 2.
2	Developed by the Academic Committee of the EP	Head of AK: Mukayev Zhandos EP Manager: Sydykova Ayaulym AK members: Ospanova Dinara Zholymbayev Oraltai Aitimova Umitzhan Bazhenova Gulzhanat Kuntuganova Akbota Zhumanbekova Dana
3	Termsofimplementation	2023-2025
4	Expectedresultsofimplementation	Training of highly qualified mathematicians who ensure the implementation of pedagogical and research, expert-analytical and organizational-managerial activities and the formation of an intellectual elite for the educational, cultural and scientific spheres

2. Analyticaljustificationofthe EP

2.1 Information abouttheeducationalprogram

The educational program has been developed in accordance with the National Qualifications Framework and Professional Standards, according to the Dublin Descriptors and the European Qualifications Framework. The typical period of mastering the bachelor's degree program is 2 years.

EP "7M01501 - Mathematics" was developed by the Academic Committee

Reviewed at the meeting of the Commission for Quality Assurance of the Faculty of Natural Sciences and Mathematics
(Protocol No. 4/1 of 4.04.2023)
Approved at the meeting of the Academic Council of the University (Protocol No. 8 of 25.04.2023).
Purpose of the EP: Preparation of highly competitive specialist of modern formation, possessing multiculturalism, communication, capable of creative and professional problem solving at a high pedagogical and scientific and practical level, prepared for work by teachers of mathematics
The main criterion for the completion of the educational process is the development of at least 120 credits, with the award of a bachelor's degree.

2.2 Information aboutstudents

Academic year / The basis of trainig	2023-2024	2024-2025
Grant	7	7
Contract	19	19
Total	26	26

2.3 Internal and external conditions of EP development

The educational program is aimed at studying the most modern achievements in the methodology of teaching mathematics and the use of mathematical methods for processing the results of pedexperiment. Prospects for the development of professional competencies access to Internet resources, including the electronic library of the university and the resources of the scientific library of the university (the library fund is equipped with printed and electronic publications, educational and scientific literature on the disciplines of the specialty) National Electronic Library of Kazakhstan, ChemSpider electronic database, Republican Interuniversity Electronic Library, eLibrary.RU databases of the Russian electronic scientific library of information.

Teachers implementing the educational program have the potential for development, that is, the desire for improvement and self-development through the integration of educational, scientific and innovative activities in their work. The teaching staff of the department systematically improves their qualifications through courses, classes of the scientific and methodological seminar of the department. The result of this is the application of various methods and forms in the learning process. Widely used in the content of lectures and seminars are teaching methods such as:

- game methods (role-playing, educational, business, reflexive, imitation, etc.);
- brainstorming;
- collective cognitive activity;
- group work;

- video method;
- multimedia technology;
- round table;
- debates;
- problem-based search method.

Not only traditional forms of education are used in the classroom, but also modern ones:

- integrated lecture;
- problem lecture;
- lecture conversation;
- training seminar.

To implement the OP, pedagogical and research practice is organized and conducted in educational institutions, organizations with which contracts have been concluded. The objects of students' research practice are secondary schools, lyceums: "Nazarbayev Intellectual School of Physics and Mathematics" of Semey city, KSU "Gymnasium No. 6 of Semey city", KSU "Secondary School No. 27", etc.

The scientific internship of undergraduates is carried out in cooperation with the NAO "VKU named after S.Amanzholov" and the NAO "Pavlodar Pedagogical University" named after Alkey Margulan.

2.4 Information about teaching staff implementing the educational program

№	Indicators	Units	2023-2024	2024-2025
1	The share of teaching staff with a degree in EP	%	**83%**	**90%**
2	Including the share of teaching staff with a degree in the general disciplines cycle	%	**71%**	**80%**

2.5 Characteristics of the achievement of the EP

The implementation of OP 7M01501-Mathematics is provided by scientific and pedagogical personnel with higher basic education corresponding to the profile of the disciplines taught, and successfully engaged in scientific and methodological activities.

The list of educational computer programs that are actively used in the educational process is expanding. To form the competence of teaching staff at the university, a number of IS have been developed and are being improved: operating systems and office applications installed on computers used in the educational process and for research.

The AIS program is used to manage the educational process and implement distance learning technologies. The university constantly conducts training seminars on the above-mentioned claims.

To implement the OP, professional practice is organized and conducted in institutions and organizations with which contracts have been

concluded. The objects of professional practice of students are secondary schools, lyceums.

3. The main objectives of the EP development plan

For the effective implementation of the OP , the following tasks are defined:

- improving the training of a professional psychologist who knows the methods and techniques of the main areas of activity in psychological science.
- updating the content of the OP, which forms the main professional competencies of future psychologists;
- creation of prerequisites for independent research activity of the student.
- improvement of conditions for obtaining high-quality professional education

The expected end results suggest:

- development of educational and methodical literature;
- the activity of the teaching staff in terms of publications in rating publications with a non-zero impact factor;
- increasing the level of information and technical base;
- advanced training of teaching staff in the field of innovative learning technologies;
- demonstrate a formed worldview as the basis of readiness for professional activity;
- to apply various methods of studying psychological phenomena in professional activity
- implementation of psychological and pedagogical support, support, establishment of contacts and interaction with other subjects of the educational process;
- ways of orientation in professional sources of information (magazines, websites, educational portals, etc.);

4. EP riskanalysis

№	Name ofrisks	Measurestoeliminate
2	Insufficient level of language knowledge for the introduction of trilingual education	Conducting specialized courses, training seminars
4	Insufficient development of external and internal academic mobility of students and teaching staff	Close interaction with partner universities, explanatory work with students and teachers
5	The risk of a decrease in the settlement of Teaching staff by EP	Stimulating teaching staff to improve professional training, using the opportunities of a targeted PhD doctoral program

5.Action plan for the development of the EP

№	Criteria	Expected results	Units	2023-2024	2024-2025
1.1	Updating the educational program based on professional standards, taking into account the recommendations of employers	Conducting an examination of the Educational program "6B01501-mathematics" in order to improve the practice orientation and development of professional competencies of graduates	fact	+	
1.2	Monitoring and updating catalogs of elective disciplines in accordance with the development of key and professional competencies, the demands of the labor market	Improving the quality of the content of educational programs by including elective courses aimed at developing the key and professional competencies of graduates in accordance with the demands of the labor market.	fact	+	
1.3	Introduction of modern technologies into the educational process that contribute to the development of cognitive activity, communicative ability of students	Improving the quality of teaching academic disciplines, taking into account the novelty and diversity of forms of work that contribute to the development of cognitive activity.	fact	+	
1.3.1	Introduction of mass open online courses (MOOCs) in the educational process according to the educational program "6B01501-mathematics"	Introduction of disciplines into the educational process Improving the quality of teaching academic disciplines, taking into account the novelty and diversity of forms of work that contribute to the development of cognitive activity.	unit		1
1.4	Involvement of social partners and employers in the development, examination of the implementation of educational programs	Improving the quality of implemented educational programs taking into account market demands and recommendations of employers	unit.	1	1
1.5	Development and implementation of elective courses in English	Introduction of disciplines in English into the educational process	unit.	-	1
1.6	Conducting seminars and round tables on the application of innovative technologies in the educational process	Introduction of innovative technologies in theeducational process	unit.	1	1
1.7	Publication of educational, methodical and scientific literature on the implemented EP	Improvement of educational and methodological support in the disciplines of the implemented educational programs	unit.	1	1

1.8	Conclusion of contracts with foreign and domestic partner universities in order to develop academic exchange of students of all levels and teaching staff	Creation of a database of foreign and domestic partner universities for the development of academic exchange of students of all levels and teaching staff	unit.		1
1.9	Inviting students from partner universities to study for a semester, short-term internships, internships, etc.	Development of international recognition of educational programs, implementation of academic mobility programs for students	p.		1
1.10	Participation of teaching staff and students in international programs academic exchange	Development of international cooperation with foreign universities implementing educational programs in the direction B009 – Teacher training in mathematics	p.		1
1.11	Development of outgoing academic mobility of teaching staff and students in the direction B009 – Teacher training in mathematics	Improvement of the educational program based on the use of the experience of implementing such programs in the leading universities of the Republic of Kazakhstan	p.		1
2.1	Professional development and training of scientific and pedagogical personnel for the implementation of educational programs once every 5 years	The share of teaching staff who have passed advanced training at the national level is at least 20%	p.	2	2
2.2	Advanced training, retraining, internships of teaching staff at the international level	Completion of at least 2 teachers of the advanced training program, retraining, internships of teaching staff at the international level	p.		1
2.3	Promotion of publications of the works of teaching staff in international publications indexed by the Web of Science and Scopus databases	Increase in the share of teaching staff who have published the results of scientific research in publications indexed by the Web of Science and Scopus databases – at least 30% of the total number of teaching staff	%	10%	12%
2.4	Involvement of practical specialists in teaching and scientific activities	Participation in the implementation of educational programs of practitioners (at least 20% of specialists)	%		1
3.1	Conclusion of agreements on international cooperation with foreign universities	Implementation of joint projects, preparation of scientific publications with foreign partners, creation of bases forscientific internships of students	unit		1
3.2	Attracting foreign students to study under the educational program 6B01507 "Computer Science and Robotics"	Increasing the number of foreign students	p.		1

3.3	Organization of joint scientific and practical events with international partners	Improving the efficiency of scientific and methodological activities of teaching staff, exchange of experience with foreign partners	unit		1
4.1	Step-by-step equipping of classrooms with technical training tools (projectors, panels, interactive and multimedia whiteboards, multifunction devices, webcam, projector screen, etc.)	Equipping classrooms assigned to the department with technical training tools (projectors, panels, interactive and multimedia whiteboards, multifunctional devices, webcam, projector screen, etc.)	unit	1	1
4.2	Carrying out the automation of the educational process (testing, session management, student contingent movement, dean's office, department, teaching staff workload, schedule, library, syllabuses)	Information management based on the automation of the educational process (testing, session management, student body movement, dean's office, department, teaching staff workload, schedule, library, syllabuses)	fact	1	1
4.3	Replenishment of the full-text database of the results of scientific research of teaching staff and students, teaching staff (articles, monographs, etc.)	An increase in the number of results of scientific works of scientists, research of teaching staff and students, teaching staff (articles, monographs, etc.)	unit		1
4.4	Expansion of the fund of scientific and educational literature, including on electronic media on ongoing educational programs	Ensuring the implementation of educational programs based on modern educational and information resources, including on electronic media	%	10%	12%

Head of the department _____ **Dinara Ospanova**

Reviewed
at a meeting of the Commission on Quality Assurance
of the faculty of Natural Sciences and Mathematics
Protocol No 6 of 06.06.2023
Chairman of the CQA _____ Zheldybayeva Balgyn

Agreed
Dean of the faculty _____ Zhandos Mukayev
06.06.2023