



NJSC SHAKARIM UNIVERSITY OF SEMEY

DEVELOPMENT PLAN EDUCATIONAL PROGRAM

6B01509 - Chemistry-Biology

Semey

SHAKARIM UNIVERSITY OF SEMEY

APPROVED

Board Member Vice-Rector for Academic
affairs _____ I. Oralkanova

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2023y



EDUCATIONAL PROGRAM DEVELOPMENT PLAN

“6B01509 – Chemistry- Biology”

(EP code and name)

For 2023-2027 years

Semey 2023y

Content

1.	Passport of the educational program development plan	3
2.	Analytical justification EP	4
2.1	Information about the educational program	4
2.2	Information about students	4
2.3	Internal and external conditions of development EP	4
2.4	Information about PPC, implementing an educational program	5
2.5	Characteristics of the achievement of the EP	6
3	The main objectives of the EP development plan	7
4	Risk analysis EP	8
5	Action plan for the development of the EP	9

1. Passport of the Development Plan of the EP “6B01509 – Chemistry and Biology”

1	Basis for development	Shakarim University Strategic Plan for 2021-2025. Faculty work plan
2	Developed by the Academic Committee of the EP	Head of AC: Mukaev Zh.T., Dean of the NMF Manager of the EP: Ontagarova D.R. , senior lecturer, Ph.D. Members of the AC: Rakhimzhanova A.M., PhD Head of Department Sapakova A.K. , senior lecturer, Ph.D. Sharipkhan D.E. , chemistry teacher, secondary school № 27 in Semey. Kaliev A.K., chemistry teacher, secondary school № 4 in Semey. Argyngazieva A.E., Student ChB-001, EP 6B01509- “Chemistry-Biology” Bakytova A.B., Student ChB-001, EP 6B01509- “Chemistry-Biology”
3	Terms of implementation	2023 -2027 y.y.
4	Expected results of implementation	In connection with the improvement of the quality of education, the preparation of a competent, competitive, innovation-oriented specialist who adapts to changing conditions of the labor market, approaches to the design of educational programs are changing in the Kazakhstan higher education system. New conditions change not only the role of education in society, but its goals, objectives and content, which dictates the need for constant updating of programs, educational and methodological materials.

2. Analytical justification of the EP

2.1 Information about the educational program:

The educational program is developed in accordance with the National Qualifications Framework and Occupational Standards, *in accordance with* the Dublin Descriptors and the European Qualifications Framework. **The typical period for completing a bachelor's degree program is 4 years.**

EP 6B01509 – Chemistry- Biology developed by the Academic Committee

Considered at a meeting of the Commission for Quality Assurance of the Faculty of Science and Mathematics (Minutes No. 4/1 “4” April 2023)

Approved at a meeting of the University Academic Council (Minutes No. 8 of April 25, 2023).

The main criterion for the completion of the educational process is the completion of at least 240 credits, with the award of a Bachelor of Education degree in educational program 6B01509 - Chemistry - Biology .

2.2 Information about students in the EP

Academic year \ Basics of training	202 3 -202 4 academic year	202 4 -202 5 academic year	202 5 -202 6 academic year	202 6 -202 7 academic year
Grant	110	119	1 3 0	123
Contract	50	55	61	82
Total	160	1 7 4	191	205

2.3 Internal and external conditions for the development of EP

In EP 6B015 09 – Chemistry- Biology components for preparation for professional activity are included. This is reflected in the topics and list of tasks for laboratory and practical classes, in the list of types and forms of completing tasks for the student’s independent work. Various forms of conducting classes (traditional and frontal and demonstration experiments, case methods and project-based teaching methods, problem-based and step-by-step, modular teaching methods), completing diploma theses, and undergoing professional practices also form professional qualities . Activation of cognitive and scientific-creative

activities is also facilitated by the participation of students in scientific circles at the department, in seminars, round tables and conferences.

Course curricula, content of lectures, practical and laboratory classes are adjusted taking into account the renewal of the library collection, the requirements of internal and external regulatory documents and concepts of educational development. EP training sessions are conducted in 15 classrooms. Practical training of EP students is carried out through educational and industrial practices, which are the most important link in the system of professional training of future specialists. Internships are focused on deepening, systematizing, generalizing and concretizing theoretical knowledge acquired at the university, and improving professionally significant skills and abilities.

Students take an active part in creating an educational trajectory during the learning process by participating in the academic mobility program. The organization of external and internal academic mobility at the university is carried out on the basis of the “Regulations on academic mobility of Shakarim University in the Republic of Kazakhstan”, taking into account the needs and individual characteristics of students. Academic support for students when choosing a partner university and forming an individual curriculum, which includes the opportunity to study the proposed disciplines, is provided by the student advisor and the preschool education coordinator .

The university has concluded an agreement on cooperation on the implementation of programs for external academic mobility of students with 30 universities in foreign countries, as well as internal academic mobility of students with 19 universities of the Republic of Kazakhstan.

General control over the employment process of university graduates is carried out by the head of the Career and Employment Department. Every year, the university appoints those responsible for employment at the faculty level and at the level of graduating departments. Every year the university holds a university-wide job fair with the participation of employers from different fields of activity. By EP " 6B01509 – Chemistry- Biology " specialists are graduated annually, the employment rate is 100% .

Dual training in educational organizations is organized during the period of professional training for full-time students to gain practical experience taking into account the content of the modules of the educational program in accordance with the curriculum .

2.4 Information about teaching staff implementing the educational program

No.	Indicators	Unit .	2023-2024 academic year	2024-2025 academic year	2025-2026 academic year	2026-2027 academic year
1	Share of teaching staff with an academic degree in EP	%	57	62	65	67
2	Including the share of teaching staff with an academic degree in the OOD cycle	%	10	10	eleven	12

2.5 Characteristics of the achievements of the EP

- ✓ The demand for specialists with higher pedagogical education in the region;
- ✓ The share of graduates who studied under government orders and are employed in their specialty is 100%
- ✓ Sufficient level of settling ; the share of full-time teaching staff with academic degrees and titles is 53 %.
- ✓ High lecturing skills and mentoring and the presence of basic education of teaching staff
- ✓ The use of innovative teaching methods by teachers in training sessions
- ✓ Availability of continuity at two levels: bachelor's - master's degree
- ✓ Formation of practical skills of students taking into account the real needs of employers
- ✓ Availability of educational laboratories equipped with laboratory equipment and instruments
- ✓ The information and library collection in the specialty is complete, all disciplines are provided with educational, educational, methodological and scientific literature
- ✓ Provision of hostel accommodation for non-resident students
- ✓ Active participation of teaching staff and students in cultural events

3. Main objectives of the EP development plan

Goals and objectives for the development of EP 6B01509 – Chemistry- Biology in accordance with the mission of the university are:

- of carrying out the process of social and pedagogical training and education of a child at a high level ;

- filling the labor market with competitive teachers focused on professional growth, civic values, social responsibility and competencies in accordance with the requirements for this area of training.
- fulfillment of the social order of society for the development and formation of specialists in demand in the system of chemical and biological education;
- increasing the level of quality of education in accordance with the requirements of national and international standards based on the formation of motivation of students for professional improvement and self-realization;
- mastery of key, subject and professional competencies for subsequent successful professional activities;
- formation of students' readiness to organize and conduct research activities in the field of chemical and biological education.

4 Risk analysis of EP

No.	Name of risks	Corrective measures
1	Outdated training and laboratory facilities	Creation of a modern educational, research and laboratory base on the basis of public-private partnership, purchase of modern laboratory equipment.
2	Weak practical skills of students in using modern teaching methods in practice.	Practice introducing elements of dual training in educational organizations to gain practical experience, taking into account the content of the modules of the educational program .
3	Decline in the employment rate of graduates	Continue the development of the career guidance system for the younger generation, starting from school (both university graduates and students themselves, as well as teachers, specialists from the university employment center and employers can help with this); Carry out systematic monitoring of the functioning of the EP quality assurance system, including its design and management based on facts.
4	Insufficient development of external and internal academic mobility of students and teaching staff	Intensifying international scientific cooperation
5	The risk of reducing the degree of teaching staff in	To increase the level of teaching staff by enrolling young specialists in

	the EP	PhD programs .
6	EP development plans undergo public discussion with a small number of representatives of interested parties, based on whose proposals and amendments changes could be made to the planning and management of EP;	Expand the opportunities for developing practical skills of students, taking into account the real needs of employers;
7	Insufficient participation of teaching staff in competitions for the implementation of grant scientific projects financed by the Ministry of Education and Science of the Republic of Kazakhstan and other funds;	Increase the share of participation of teaching staff in competitions for the implementation of grant scientific projects financed by the Ministry of Education and Science of the Republic of Kazakhstan and other funds;

5. Action plan for the development of EP

No.	Criteria	Expected results	Unit change	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027
Direction 1. Educational and methodological support							
1.1	Updating the educational program based on professional standards , taking into account the recommendations of employers	Conducting an examination of EP 6B015 09 – Chemistry and Biology in order to increase practice orientation and develop professional competencies of graduates	fact .	1	1	1	1
1.2	Monitoring and updating catalogs of elective disciplines in accordance with the development of key and professional competencies and labor market demands	Improving the quality of the content of educational programs through the inclusion of elective courses aimed at developing key and professional competencies of graduates in accordance with the demands of the labor market.	fact .	1	1	1	1
1.3	Introduction into the educational process of modern teaching technologies that contribute to the development of cognitive activity and communicative ability of students	Improving the quality of teaching academic disciplines, taking into account the novelty and variety of forms of work that contribute to the development of cognitive activity of students.	fact .	All disciplines by elective components	All disciplines by elective components	All disciplines by elective components	All disciplines by elective components

1.3.1	Introduction into the educational process of massive open online courses according to the educational program 6B01509 – Chemistry-Biology	Introduction of disciplines into the educational process Improving the quality of teaching academic disciplines, taking into account the novelty and variety of forms of work that contribute to the development of cognitive activity of students.	units –	1	1	1	1
1.4 –	Involving social partners and employers in the development and examination of the implementation of educational programs	Improving the quality of implemented educational programs taking into account market demands and employer recommendations	units –	2	2	2	2
1.5 –	Development and implementation of elective courses in English	Introduction of disciplines in English into the educational process	units –	-	-	-	-
1.6 –	Conducting seminars and round tables on the use of innovative technologies in the educational process	Introduction of innovative technologies into the educational process	units –	1	1	1	1
1.7 –	Publication of educational, educational, methodological and scientific literature on implemented educational programs	Improving educational and methodological support in the disciplines of implemented educational programs	units –	2	2	3	4
1.8	Concluding agreements with foreign and domestic partner universities in order to develop academic exchange of students of all levels and teaching staff	Creation of a base of foreign and domestic universities - partners for the development of academic exchange of students of all levels and teaching staff	units –	3	3	3	3

1.9	Inviting students from partner universities to study for a semester, short-term internships, practice, etc.	Development of international recognition of educational programs, implementation of academic mobility programs for students	person	-	1	1	2
1.10	Participation of teaching staff and students in international academic exchange programs	Development of international cooperation with foreign universities implementing educational programs in the field of	person	-	-	-	1
1.11	Development of outgoing academic mobility of teaching staff and students in the direction 6B015 09 – Chemistry and Biology	Improving the educational program based on the experience of implementing similar programs in leading foreign universities	person	4	5	6	6
Direction 2. Faculty							
2.1	Increasing the professional level and training of scientific and pedagogical personnel for the implementation of educational programs once every 5 years	The share of teaching staff who have undergone advanced training at the republican and international level is at least 20%	person	3	4	4	5
2.2	Completion of advanced training, retraining, internship of teaching staff at the international level	Walkthrough at least 2 teachers advanced training, retraining, internship programs for teaching staff at the international level	person	1	1	2	2
2.3	Web databases of Science and Scopus	Web databases of Science and Scopus – at least 30% of the total teaching staff	%	30	30	30	30

2.4	Involving specialists from the practical field of activity in teaching and scientific activities	Participation in the implementation of educational programs of practitioners (at least 20% of specialists)	%	20	20	20	20
Direction 3. Internationalization of educational programs							
3.1	Concluding agreements on international cooperation with foreign universities	Implementation of joint projects, preparation of scientific publications with foreign partners, creation of bases for scientific internships for students	units –	5	5	6	6
3.2	Attracting foreign students to study under the educational program 6B01509 – Chemistry and Biology	Increase in the number of foreign students	person	1	1	2	3
3.3	Organization of joint scientific and practical events with international partners	Increasing the efficiency of scientific and scientific-methodological activities of teaching staff, exchange of experience with foreign partners	units –	1	1	2	2
3.4	Inviting foreign specialists to give lectures and provide consultations on master's projects and dissertations	Improving the content component of educational programs based on the introduction of the experience of foreign specialists in the implementation of educational programs	units –	-	1	1	1

3.5	Expanding cooperation with leading foreign scientific and educational organizations in order to attract the most qualified foreign specialists to the implementation of educational programs	Formation of key and professional competencies in accordance with the practice of leading universities	person	-	-	-	-
Direction 4. Logistics and digitalization							
4.1	Stage-by-stage equipment of classrooms with technical teaching aids (projectors, panels, interactive and multimedia boards, multifunctional devices, webcam, projector screen, etc.)	Equipping classrooms assigned to the department with technical teaching aids (projectors, panels, interactive and multimedia boards, multifunctional devices, webcam, projector screen, etc.)	units –	1	1	2	2

4.2	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 contingent movement, dean's office, department, teaching staff workload, schedule, library, syllabuses)	fact	All	All	All	All
4.3	Replenishment of the full-text database of research results of teaching staff and students (articles, monographs, etc.)	Increasing the number of results of scientific works of scientists research results of teaching staff and students (articles, monographs, etc.)	ed	1	2	2	2
4.4	Expansion of the fund of scientific and educational literature, including on electronic media for the implemented educational programs	Ensuring the implementation of educational programs based on modern educational and information resources, including on electronic media	%	100	100	100	100
4.5	Monitoring the content and improvement of the faculty's website	Formation of the faculty's website on various aspects of the implementation of educational programs	%	100	100	100	100

Head of the Department _____

PhD Rakhymzhanova A.M.

Reviewed

at the meeting of the quality assurance commission NMF minutes of meetings №6 from 06 june 2023y.

Chairman Zheldybaeva B.S.

Agreed

Dean of the faculty Mukaev.Zh.T.

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