



NJSC SHAKARIM UNIVERSITY OF SEMEY

DEVELOPMENT PLAN EDUCATIONAL PROGRAM

8D07102 - Automation and control

Semey

NJSC «SHAKARIM UNIVERSITY OF SEMEY»

APPROVED

Board member- Vice- rector for academic affairs



I.Oralkanova

« 25 » 05 2023

EDUCATIONAL PROGRAM DEVELOPMENT PLAN

8D07102 «Automation and control»
(code and name of educational program)
2023-2025

Semey 2023

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1. Passport of the Development plan for the 8D07102 – “Automation and control” bachelor’s /master’s degree educational program (EP)

1	Basis for development	Shakarim University's strategic plan for 2021-2025. Faculty Work Plan
2	Implementation timeframe	2023-2026
3	Expected results of realization	Preparation of competitive specialists possessing skills and abilities of organizational and managerial, scientific and design activities in the field of automation and control with the application of theoretical, practice-oriented and scientific and educational approaches.

2. Analytical rationale of the EP

2.1 Information about EP

The educational program is 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 educational program of doctoral studies is 3 years

8D07102 «Automation and control» educational program is developed by the Academic Committee

Reviewed at the meeting of the Quality Assurance Commission of the Faculty of Engineering and Technology (**Protocol № 4/6, 10.04.2023**)

Approved at the meeting of the University Academic Council (**Protocol № 8, 25.04.2023**).

The educational program 8D07102 - "Automation and Management", implemented by the Department of "Automation, Information Technology and Urban Planning" of the Faculty of Engineering and Technology of Shakarim University of Semey, is developed taking into account the needs of the regional labor market, the requirements of regulatory documents of the Ministry of Education and Science of the Republic of Kazakhstan and is a system of documents for the organization of the educational process. It reflects the peculiarities of the goals of educational training of PhDs with innovative thinking, possessing advanced technologies in the field of application of new information technologies in future professional activities, namely, consulting services in the field of automation and control, in working with a wide class of application software, repair and maintenance of technological processes, the ability to combine design and programming in one course as control systems built on the combined basis of the new information technologies, as well as the ability to use the new information technologies in the future professional activities.

The content of the educational program is implemented through the curriculum, developed in a modular format, which provides two cycles of disciplines: the cycle of basic disciplines and the cycle of profiling disciplines, as well as additional types of training (internships, research work).

2.2 Information about students

Academic year Form of education	2023-2024 academic year	2024-2025 academic year	2025-2026 academic year
Grant	2	2	2
Contract	-	-	-
Total	2	2	2

2.3 Internal and external conditions for the development of the EP

For the development and implementation of the educational program 8D07102 "Automation and Control" at the department created favorable and optimal conditions such as:

- highly qualified teaching staff (staffing -100%);
- high material and technical equipment of the OP;
- teaching in 3 languages (state, Russian and English);
- modern educational and methodical base, with access of students to information and analytical resources;
- application of modern and interactive learning tools;
- academic mobility (external and internal);
- high-quality professional infrastructure (educational resources);
- contracts with research institutes for internships and practices of doctoral students.

2.4 Information about teaching staff implementing the educational program

№	Показатели	Ед.изм.	2022-2023 учебный год	2023-2024 учебный год
1	Share of teaching staff with academic degrees in the EPs	%	100	100
2	Including the share of teaching staff with a degree in the GED cycle	%	100	100

2.5 Characteristics of the achievements of the EP

On the educational program 8D07102 "Automation and control" there are achievements, such as:

- PhD thesis defense by teachers of the department Kozhakhmetova D.O., Karymsakova I.B.;
- participation of faculty members in the OP in research work on grant funding KN MNVO RK:
 1. "Intelligent robotic system for plasma processing and cutting of large-size products of complex shape"
 2. "Scientific and practical substantiation of the use of encapsulated synbiotic preparations with immunostimulating activity in the production of dairy products" 3.
 3. International project on Erasmus+ program "Kaz Dual - introduction of dual system in Kazakhstan". 3.
 4. GeKaVOC project (Transfer of dual trainings on logistics, mechatronics and sustainable energy in Kazakhstan);
 - high material and technical equipment of OP;
 - training in 3 languages (state, Russian and English);
 - modern educational and methodical base, with access of students to information and analytical resources;
 - application of modern and interactive learning tools;
 - academic mobility (external and internal);
 - high-quality professional infrastructure (educational resources);
 - contracting with research institutes for internships and practicums of doctoral students.

3. The main objectives of the EP development plan

The educational program 8D07102 "Automation and Control" is developed on the basis of employers' request.

The main objective of the OP and its development is its improvement in accordance with the vision, mission and strategy of the university aimed at training highly qualified, competitive staff, improving the quality of knowledge, formation of a multilevel system of research activities in accordance with the current needs of modern education and science, transformation into a world-class innovative university.

The main objectives of the development plan are the following:

№	Name of task	Timeline	Stages of development
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		развития	
1	Providing conditions for obtaining full-fledged, quality professional education	2023-2026	Development of measures to improve the quality of educational services for the development of professional skills of future specialists
2	Formation of basic professional competencies in future specialists	2023-2026	Updating the content of the EP. Acquisition of professional competencies in the field of IT technologies
3	Ability to work with scientific and technical information, use domestic and foreign experience in professional activities, systematize and summarize the information obtained	2023-2026	Development of measures to analyze and process the results obtained
4	Consultation of scientists of research institutes in the selection of actual and practically significant topics of doctoral dissertations	2023-2026	Stakeholder consultations

4. Risk analysis of EP

№	Name of risks	Corrective measures
1	Reduction of the contingent of students in the EP	Formation of the contingent of students through career guidance and information and advertising activities, creation of multilingual education groups
2	Insufficient level of language skills for the introduction of trilingual education	To plan English language courses for faculty members
3	Insufficient development of external and internal academic mobility of master students and faculty members	Conclude agreements with universities for external and internal academic mobility of graduate students and faculty members
4	Insufficient provision of educational-methodical literature on professional disciplines in the state language	To plan the annual publication of scientific and educational-methodical literature in the state language by scientists and teaching staff.

5. Action plan for the development of EP

№	Criteria	Expected results	unit of measurement	2023-2024	2024-2025	2025-2026
Direction 1. Educational and methodological support						
1.1	Updating the educational program on the basis of professional standards taking into account employers' recommendations	Conducting an expert review of the Educational Program 8D07102 "Automation and Control" in order to increase the practice-orientation and development of professional competencies of graduates	fact	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 the development of key and professional competencies of graduates in accordance with the demands of the labor market.	fact	1	1	-
1.3	Introduction in the educational process of modern teaching technologies that promote the development of cognitive activity and communicative ability of students.	Improving the quality of teaching of academic disciplines, taking into account the novelty and variety of forms of work that contribute to the development of cognitive activity.	fact	-	1	-
1.3.1	Introduction of mass open online courses (MOOCs) in the educational process for the educational program 8D07102 "Automation and Management".	Improving the quality of teaching of academic disciplines, taking into account the novelty and diversity of forms of work that contribute to the development of cognitive activity.	unit	-	-	-

1.4	Involvement of social partners and employers in the development and expertise of educational programs implementation	Improvement of the quality of the educational programs implemented taking into account market demands and employers' recommendations	unit	1	1	1
1.5	Development and implementation of elective courses in English	Introduction of disciplines in English into the educational process	unit	-	-	-
1.6	Holding seminars and round tables on the application of innovative technologies in the educational process	Introduction of innovative technologies in the educational process	unit	-	-	1
1.7	Publication of educational, educational-methodical and scientific literature on the implemented educational programs	Improvement of educational and methodical provision of the disciplines of the implemented educational programs	unit	-	1	1
1.8	Conclusion of 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 partner universities for the development of academic exchange of students of all levels and teaching staff.	unit	1	-	1
1.9	Invitation of students from partner universities to study for a semester, short-term internships, practical training, etc.	Development of international recognition of educational programs, implementation of programs of academic mobility of students	people	-	-	-
1.10	Participation of faculty and students in international academic exchange programs	Development of international cooperation with foreign universities implementing educational programs in the direction 8D07102 "Automation and Management"	people	-	-	1

1.11	Development of outgoing academic mobility of teaching staff and students in the direction 8D07102 "Automation and Control"	Improvement of the educational program on the basis of using the experience of similar programs in the leading universities of RK	people	-	-	1
Direction 2. Teaching staff						
2.1	Professional development and training of scientific and pedagogical staff for the implementation of educational programs once every 5 years	The share of faculty members who have undergone professional development at the national level is not less than 20%	people	1	1	-
2.2	Professional development, retraining, internship of teaching staff at the international level	At least 2 teachers of the program of professional development, retraining, internship of teaching staff at the international level.	people	-	1	-
2.3	Promotion of publications of teaching staff in international editions indexed by 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 Web of Science and Scopus databases - not less than 30% of the total number of teaching staff.	%	2	2	2
2.4	Involvement of practitioners in teaching and research activities	Participation of practitioners in the implementation of educational programs (at least 20% of specialists)	%	-	-	1
Direction 3. Internationalization of educational programs						
3.1	Conclusion of agreements on international cooperation with foreign universities	Realization of joint projects, preparation of scientific publications with foreign partners, creation of bases for scientific internships of students	unit	1	1	1

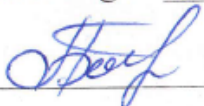
3.2	Attracting foreign students to study in the educational program "8D07102 "Automation and Management".	Increase in the number of foreign students	people	-	-	-
3.3	Organization of joint scientific-practical events with international partners	Increasing the efficiency of scientific and scientific-methodical activity of teaching staff, exchange of experience with foreign partners	unit	1	1	-
3.4	Invitation of foreign specialists for lectures and consultations on doctoral dissertations.	Improvement of the content component of educational programs on the basis of introducing the experience of foreign specialists in the implementation of educational programs	unit	-	1	1
3.5	Expansion of cooperation with advanced foreign scientific-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	people	-	1	-
Direction 3. Materials and technical support and digitalization						
4.1	Step-by-step equipping of classrooms with technical means of education (projectors, panels, interactive and multimedia boards, multifunctional devices, web camera, screen for projector, etc.).	Equipping classrooms assigned to the department with technical means of education (projectors, panels, interactive and multimedia boards, multifunctional devices, web camera, screen for projector, etc.).	unit	1	1	-

4.2	Carrying out automation of the educational process (testing, session management, student contingent movement, dean's office, department, faculty workload, schedule, library, syllabus)	Information management based on the automation of the educational process (testing, session management, student contingent movement, dean's office, department, faculty workload, timetable, library, syllabus)	fact	3	3	3
4.3	Replenishment of the full-text base of the results of scientific researches of the teaching staff and students, faculty members (articles, monographs, etc.).	Increase in the number of results of scientific works of scientists, research of faculty members and students, faculty members (articles, monographs, etc.).	unit	1	1	1
4.4	Expansion of the fund of scientific and educational literature, including electronic media on the implemented educational programs	Ensuring the implementation of educational programs on the basis of modern educational and information resources, including on electronic media	%	1	1	-
4.5	Monitoring of the content and improvement of the faculty website	Formation of the faculty website on various aspects of the implementation of educational programs.	%	1	1	1

Head of Department  **Kozhakhmetova D.**

REVIEWED

at the meeting of the Quality Assurance Commission
Faculty of Engineering and Technology
Minutes of the meeting № 5 от 25 05 2023 г.

Chairman  **Abdilova G.**

APPROVED



Dean of the Faculty  **Nurimkhan G.**

2023