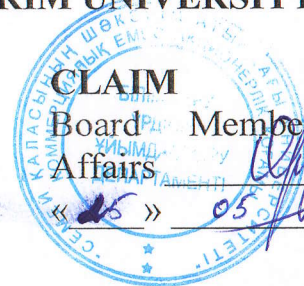


NON-PROFIT JOINT STOCK COMPANY "SHAKARIM UNIVERSITY OF SEMEY"



CLAIM

Board Member-Vice-Rector for Academic
Affairs I.A. Oralkanova

« 26 » 05 / 2023y.

EDUCATION PROGRAM DEVELOPMENT PLAN

7M06101 «Computer science»

for the period 2023-2025

Semey 2023

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1. Passport of the Development Plan EP bachelor/ master's degree 7M06101 Computer science
(name of EP)

1	Foundation for the development	The strategic plan of Shakarim University for 2021-2025. Faculty Work Plan.
2	Implementation period	2023-2025
3	Expected implementation	Training of competitive specialists, possessing skills and organizational-managerial, research and development activities in the field of information technologies with the application of theoretical, practical, oriented and scientific-educational approaches.

2. Analytical background of the OP

2.1 Information on the educational programme

The educational program is developed in accordance with the National Qualification Framework and professional standards, according to the Dublin Descriptors and the European Qualifications Framework. **The typical** period of mastering the educational master's program is 2 years.

EP «7M06101 Computer science» developed by the Academic Committee
(name of EP)

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

Approved at the meeting of the Academic Council of the University (Protocol from 25.04.2023).

The main criterion of the completion of the educational process is the development of at least 120 credits, with the award of the degree of Master of Technical Sciences on the educational program 7M06101 Computer science.

Educational program «Computer science», implemented by the Department of Automation, information technology and urban planning of the Faculty of Engineering and Technology of the University named after Shakarim city Semey, is developed taking into account the needs of the regional labor market, the requirements of the normative 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 educational training of masters, possessing innovative thinking, possession of advanced technologies in the field of application of new information technologies in future professional activity, namely, consulting services in the field of information technology, working with a wide class of applications, repair and maintenance of computer equipment, installation of system and application software, as well as the design and creation of programs, databases, Internet sites, etc.

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

2.2 Student information

Academic year	2024-2025 academic year	2025-2026 academic year
Basis of learning		
Grant	3	3
Treaty	5	5
Totaling	8	8

2.3 Internal and external conditions of EP development

For the development and implementation of the educational program 7M06101 Computer science at the department created favorable and optimal conditions such as:

- highly qualified professorship and teaching staff (degree - 100%);

- high material and technical equipment of OT;

Education in 3 languages (state, Russian and English);

- modern educational and methodological 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 were concluded with the research institute for internships and internships of undergraduates.

2.4 Information on teaching staff implementing the educational programme

№	Indicators	Unit	2023-2024 academic year	2024-2025 academic year
1	Share of teaching staff with degrees in EP	%	100	100
2	Including the share of teaching staff with degrees from the GED	%	100	100

2.5 EP achievement characteristic

Under the educational program 7M06101 Computer science there are achievements such as:

- protection of doctoral theses PhD teachers of the department Kozhakhmetova D.O., Karymsakova I.B.;

- participation of the PPS on OT in the research on grant financing of CN MNVO RK:

1. «Intelligent robotic system for plasma processing and cutting of large-scale products of complex shape»

2. «Scientific and practical justification for the use of encapsulated synbiotic preparations having immunostimulating activity in the production of dairy products»

3. International project on Erasmus+ «Kaz Dual - introduction of dual system in Kazakhstan»

4. GeKaVOC project (Transfer of dual training in logistics, mechatronics and sustainable energy in Kazakhstan);

- high material and technical equipment of OT;

Education in 3 languages (state, Russian and English);

- modern educational and methodological 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);

Conclusion of an agreement with the research institute for internships and internships of undergraduates.

3. Main objectives of the EP development plan

The educational program 7M06101 «Computer science» is developed on the basis of the request of employers.

The main goal of OT and its development is its improvement in accordance with the vision, mission and strategy of the university aimed at the training of highly qualified, competitive personnel, improving the quality of knowledge, the formation of a multi-level system of science and technology 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:

№	Task name	Development timelines	Stages of development
1	Ensuring conditions for full-fledged, high-quality vocational education	2023-2025	Development of measures to improve the quality of educational services for the development of professional skills of future specialists
2	Formation of core professional competencies of future specialists	2023-2025	Updating the content of OP. Acquisition of professional competences in IT technologies
3	Ability to work with scientific and technical information, to use domestic and foreign experience in professional activities, to systematize and summarize the information obtained	2023-2025	Development of analysis and processing activities
4	Consultation of Research Institute scientists in the selection of actual and practically significant topics of master's theses	2023-2025	Stakeholder consultation

4. EP risk analysis

№	Risk name	Measures to eliminate
1	Reduction in the number of students in educational programs	Formation of the contingent of students through vocational guidance and informational advertising, creation of multilingual training groups
2	Insufficient knowledge of the language to implement trilingual education	Plan the passage of courses in English by the teaching staff.
3	Insufficient development of external and internal academic mobility of undergraduates and teaching staff	Conclusion of contracts with universities for external and internal academic mobility of undergraduates and teaching staff
4	Insufficient provision of educational and methodological literature on professional disciplines in the state language	Plan the annual release by scientists and teaching staff of scientific and educational literature in the state language

5. Action plan for EP development

№	Criteria	Expected results	unit of measurement	2023-2024	2024-2025
Direction 1. Educational and methodological support					
1.1	Updating the educational program based on professional standards, taking into account the recommendations of employers	Examination of the Educational Program «7M06101 Computer science» in order to increase the practical orientation and development of professional competencies of graduates	fact.	1	1
1.2	Monitoring and updating of catalogues of elective disciplines in accordance with the development of key and professional competencies, labour market demands	Improving the quality of the content of educational programmes by including elective courses aimed at developing the key and professional competencies of graduates in accordance with the demands of the labour market.	fact.	1	1
1.3	Introduction in the educational process of modern learning technologies that promote the development of cognitive activity, communication ability of students	Improving the quality of teaching subjects, taking into account the novelty and diversity of forms of work that contribute to the development of cognitive activity.	fact.	1	1
1.3.1	Introduction into the educational process of mass open online courses (IOOC) on educational program 7M06101 Computer science	Introduction in the educational process of disciplines Improvement of the quality of teaching 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
1.6	Conducting 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, 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
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	person	-	-
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 direction of 7M06101 Computer science	person	-	1
1.11	Development of outgoing academic mobility of teaching staff and students in the direction 7M06101 Computer science	Improvement of the educational program based on the use of the experience of implementing such programs in leading foreign universities	person	-	-

Direction 2. Teaching staff					
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 and international level is at least 20%	person	1	1
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	person	-	-
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	%	1	1
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)	%	-	-
Direction 3. Internationalization of educational programs					
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 for scientific internships of students	unit.	1	1
3.2	Attracting foreign students to study under the educational program «7M06101 Computer science»	Increasing the number of foreign students	person	-	-

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	1
3.4	Invitation of foreign specialists to give lectures and consultations on master's projects and dissertations	Improvement of the content component of educational programs based on the introduction of the experience of foreign specialists in the implementation of educational programs	unit	1	1
3.5	Expansion of 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	Step-by-step equipment of classrooms with technical training tools (projectors, panels, interactive and multimedia whiteboards, multifunction devices, webcam, projector screen, etc.)	Equipping of educational classrooms attached to the department with technical means of training (projectors, panels, interactive and multimedia boards, multifunctional devices, webcam, screen for projector, etc.)	unit	-	1
4.2	Automation of the educational process (testing, session management, student movement, dean's office, department, faculty load, schedule, library, syllabus)	Information management based on the automation of the educational process (testing, session management, student population movement, dean's office, department, faculty load, schedule, library, syllabus)	fact.	1	
4.3	Replenishment of the full-text database of research results of teaching staff and students, teaching staff (articles, monographs, etc.)	Increase in the number of results of scientific works of scientists, research of teaching staff and students, teaching staff (articles, monographs, etc.)	unit	10	10

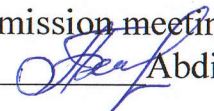
4.4	Expansion of the fund of scientific and educational literature, including on electronic media for implemented educational programs	Ensuring the implementation of educational programs based on modern educational and information resources, including on electronic media	%	1	1
4.5	Monitoring the content and improvement of the faculty's website	Formation of the faculty's website on various aspects of the implementation of educational programs.	%	1	1

**Head of the Educational Department of Automatization,
Information Technology and Urban Planning**



D. Kozhakhmetova

CONSIDERED

at the Quality Assurance Commission meeting
Chairman of the Commission  Abdilova G.B.
Protocol №5
from «25». 05. 2023.

AGREED

Dean of the Faculty of  Nurymkhan G.N.

« _____ » _____ 2023

