



NJSC SHAKARIM UNIVERSITY OF SEMEY

# **DEVELOPMENT PLAN EDUCATIONAL PROGRAM**

7M07201 - Technology of food products  
(by application)

Semey

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

**APPROVED**

Board member - Vice-Rector for academic affairs

I. Oralkanova

"05" 2023



**EDUCATIONAL PROGRAM DEVELOPMENT PLAN  
7M07201 "Technology of food products"  
2023-2025**

**Semey 2023**

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## 1. Passport of the Development Plan of the Bachelor's EP 7M07201 - "Technology of food products"

1	Basis for development	Shakarim University Strategic Plan for 2021-2025. Faculty work plan
2	Developed by the Academic Committee of the EP	<p>Head of the AK: Nurymkhan G.N., Dean of the Faculty of Engineering and Technology, associate professor</p> <p>EP Manager: Assirzhanova Zh.B., candidate of technical sciences, senior lecturer</p> <p>AK members: Smolnikova F.H. candidate of technical sciences, assoc. professor Idyryshev B.A., teacher</p> <p>Employer: Shaikhova M.K., candidate of technical sciences, associate professor Higher College of Kazakhstan Innovation Academy Kabdylzhar B.K., Senior Researcher of the Semipalatinsk branch of Kazakh Research Institute of Food and Processing Industry LLP, PhD</p> <p>Master's student: Kabaeva K.M., master's student of the MPB 101-2 group Seifullin A.T., master's student of the MPB 101-2 group</p>
3	Implementation deadlines	2023-2025
4	Expected results of implementation	Training of scientific, scientific and pedagogical personnel of a new formation capable of solving modern problems of science and production caused by the needs of the state and the market, scientific and practical activities of the university, as well as developing breakthrough technologies and solving problems of industrial and innovative development of the country, personality, formation of competitiveness of graduates in this educational program

## 2. Analytical justification of the EP

### 2.1 Information about the educational program

The educational program 7M07201 "Technology of food products" implemented by the Shakarim University of Semey, Faculty of Engineering and Technology of the Department "Food Production Technology and Biotechnology" in the group of educational programs M111 - "Food production" - was developed taking into account the needs of the regional labor market.

EP "7M07201"Technology of food products" was developed by the Academic Committee.

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

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

The educational program is implemented on the basis of the following basic documents:

1. License for conducting educational activities KZ38LAA00018432 dated June 25, 2020, Order No. 274 of June 25, 2020
2. State Mandatory Standard of Higher and Postgraduate Education of July 20, 2022 № 2.

The direction of training is scientific and pedagogical. The duration of the Master's degree program is 2 years.

The main criterion for completing the educational process is the completion of at least 120 credits, with the award of a master's degree in technical sciences in the educational program 7M07201 «Technology of food products».

The purpose of the educational program is to train competitive specialists who possess the skills and abilities of organizational and managerial, scientific and design activities in the field of food technology using theoretical, practice-oriented and scientific and educational approaches.

The uniqueness of the program lies in the opportunity for students to participate in scientific programs, start-up projects, and realize their creative potential through scientific research, creative projects, and sports events.

### 2.2 Information about students

Academic year	2023-2024 academic year	2024-2025 academic year
Basis of study		
Grant	8	8

Contract	3	3
Total	11	11

### 2.3 Internal and external conditions for EP development

The department has created favorable and optimal conditions for the development and implementation of 7M07201 "Technology of food products" Master's degree programs, such as:

- highly qualified teaching staff;
- high material and technical equipment of the EP;
- close cooperation with employers;
- modern educational and methodological base, with students ' access to information and analytical resources.

resources of the global scientific world;

- use of modern and interactive TSO;
- academic mobility (external and internal);
- high-quality professional infrastructure (educational resources);
- for conducting laboratory and practical classes, there are educational laboratories equipped with special equipment and materials

The availability of high-quality professional infrastructure (educational resources) necessary for the implementation of the EP is a guarantee of training highly qualified specialists of modern times.

On the basis of the agreement on the establishment of a branch of the department, a branch of the department operates on the basis of the SF LLP "Kazakh Research Institute of Processing and Food Industry".

Implementation of academic mobility of students and teaching staff, passing scientific internships by students is carried out with such universities of the Republic of Kazakhstan as: NAO "Kazakh Agrotechnical University named after S. Seifullin", Almaty Technological University, NAO "Toraigyrov University".

With external partners such as: Kemerovo State University, Kemerovo, Federal Altai Scientific Center of Agrobiotechnology, Siberian Research Institute of Cheesemaking, Barnaul, Novosibirsk State Agrarian University, Novosibirsk.

One of the tasks of the department is to develop a joint educational program with leading universities, the implementation of which is aimed at integration into the international scientific space through academic exchange of teachers and students, as well as obtaining two diplomas.

So, in 2023, based on the signed memorandum with the North-Western University of Agriculture and Forestry (Xianyang, People's Republic of China), it is planned to implement a two-degree education and an academic mobility program for students and teaching staff in EP 7M07201 "Technology of food products".

#### **2.4 Information about teaching staff implementing the educational program**

<b>No</b>	<b>Indicators</b>	<b>of Unit ed.</b>	<b>2023-2024 academic year</b>	<b>2024-2025 academic year</b>
1	Share of teaching staff with an academic degree in the OP	%	100	100
2	Including the share of teaching staff with an academic degree in the OOD cycle	%	100	100

Faculty members of the Department have the opportunity to improve their skills in leading research centers of the Republic of Kazakhstan and abroad.

The faculty publishes scientific articles not only in industry journals of the Republic of Kazakhstan, but also in journals and impact factors included in the Web of Science and Scopus database.

All teachers have a basic education in their specialty.

In general, the personnel potential of the department allows us to properly ensure the training of specialists in accordance with the requirements.

#### **2.5 Characteristics of the OP's achievements**

The educational program 7M07201 "Technology of food products" in 2021 successfully passed an independent specialized accreditation in the accreditation body of the Independent Agency for Accreditation and Rating (hereinafter-NAAR). On April 16, 2021, by the decision of the NAAR Accreditation Council, the educational program of the specialty was accredited and awarded a certificate for a full term of 5 years.

The achievements of EP 7M07201 "Technology of food products" include the training of scientific and pedagogical personnel and the implementation of:

1. Research projects on grant funding of the Ministry of Education and Science of the Republic of Kazakhstan on the topic: "Development of a biosensor for detecting highly cumulative xenobiotics in milk and dairy products based on regional food safety monitoring. Scientific supervisor: Doctor of Technical Sciences, Professor A.K. Kakimov.

2. A joint project on PCF with KazNIIPPP LLP on the topic "Development of resource-saving technology for processing secondary raw materials of cattle and poultry in the production of functional meat products". Performer Doctor of Technical Sciences, Professor A. K. Kakimov

3. M.M. Jumazhanov's postdoctoral grant AP14973033 "Development of drinking yogurt technology with encapsulated probiotic cultures". Scientific supervisor Candidate of Technical Sciences, Associate Professor Zh. Kh. Kakimova.

4. Postdoctoral grant A.M. Baykadamov AP14972876 "Technology of waste-free processing of meat and bone raw materials of cattle for use in the production of meat products and ensuring their food safety". Scientific supervisor: Doctor of Technical Sciences, Professor A.K. Kakimov.

The achievements of the EP also include the functioning of a branch of the department on the basis of the agreement on the establishment of a branch of the department on the basis of the SF LLP "Kazakh Research Institute of Processing and Food Industry".

Signing of a memorandum with the Northwestern University of Agriculture and Forestry (Xianyang, People's Republic of China) it is planned to implement a two-degree education and academic mobility program for students and teaching staff in EP 7M07201 "Technology of food products".

### **3. Main objectives of the EP development Plan**

The educational program 7M07201 "Technology of food products" was developed based on the request of employers.

The main goal of the EP and its development is to train competitive specialists who possess the skills and abilities of organizational and managerial, scientific and design activities in the field of food technology using theoretical, practice-oriented and scientific and educational approaches.

The main objectives of the development plan EP 7M07201 "Technology of food products":

1. Training of highly sought-after personnel that meet the needs of the internal and external labor market.
2. Interaction of the university with employers in assessing the competencies of university graduates, satisfaction with the quality of graduate training



### 3. Increasing the research potential of EP 7M07201 "Technology of food products"

#### 4. Risk analysis of the EP

#	Name of risks	Measures to eliminate
1	Reducing the number of students enrolled in OP	Development of a comprehensive career guidance plan for undergraduate students of the University. Attracting a contingent of students on a fee-and-contract basis
2	Insufficient level of language proficiency for the introduction of trilingual education	Strengthening the language training of students and teaching staff, through mandatory attendance of foreign language courses created both at the university and outside it.
3	Insufficient development of external and internal academic mobility of students and teaching staff	Step up work with foreign universities for the exchange of students and teaching staff on academic mobility
4	Risk of reducing the degree of proficiency of teaching staff in EP	Increasing their degree by defending doctoral theses
5	Improving the digital material and technical base can lead to rapid aging of the existing base	Timely planned purchase of modern equipment and devices
6	Insufficient provision of educational and methodical literature on professional disciplines in the state and English languages	Plan the annual release of scientific and educational and methodical literature in the state and English languages by scientists and teaching staff, according to the working curriculum of students

#### 5. Action plan for the development of the EP

№	Criteria	Expected results	Unit ed.	2023-2024 academic year	2024-2025 academic year

				plan	Actual implementation	plan	Actual implementation
<b>Direction 1. Educational and methodological support</b>							
<b>1.1</b>	Updating the educational program based on professional standards, taking into account the recommendations of employers	Conducting an expert examination of the Educational program 7M07201 "Technology of food products" in order to increase practice orientation and develop professional competencies of graduates	fact.	+		-	
<b>1.2</b>	Monitoring and updating the catalogs of elective subjects in accordance with the development of key and professional competencies, labor market requirements	Improving the quality of educational programs content by including elective courses aimed at developing key and professional competencies of graduates in accordance with the requirements of the labor market.	fact.	-		+	
<b>1.3</b>	Introduction of modern learning technologies in the educational process that promote the development of cognitive activity, communication skills of students	Improving the quality of teaching academic subjects, taking into account the novelty and variety of forms of work that contribute to the development of cognitive activity.	fact.	-		+	
<b>1.3.1</b>	Introduction of mass open online courses (MOOCs) in the educational program 7M07201 "Technology of food products "	Introduction of disciplines into the educational process Improvement of the quality of teaching academic subjects, taking into account the novelty and variety of forms of work that contribute to the development of cognitive activity.	unit	1		1	
<b>1.4</b>	Involvement of social partners and employers in the development, examination of the implementation of educational programs	Improvement of the quality of educational programs implemented, taking into account market requests and recommendations of employers	unit	1		1	

<b>1.5</b>	Development and implementation of elective courses in English	Introduction of subjects in English units in the educational process.	unit	1		1	
<b>1.6</b>	Conducting seminars and round tables on the use of innovative technologies in the educational process	Introduction of innovative technologies in the educational process	unit	1		1	
<b>1.7</b>	Publication of educational,-methodical and scientific literature on implemented educational	programs Improvement of educational and methodical provision in the disciplines of implemented educational programs	unit	1		-	
<b>1.8</b>	Conclusion of contracts with foreign and domestic partner universities for the development of 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		-	
<b>1.9</b>	Invite 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.	people	1		-	
<b>1.10</b>	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 Food technology	people	1		-	
<b>1.11</b>	Development of outgoing academic mobility of teaching staff and students in the direction of 7M07201 "Technology of food products"	Improvement of the educational program based on the use of experience in implementing similar programs in leading universities of the Republic of Kazakhstan	people	1		1	
<b>Direction 2. Teaching staff</b>							

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 completed advanced training at the national level is not less than 20%	people	1		1	
2.2	Completion of advanced training, retraining, internships of teaching staff at the international level	Completion of at least 2 teachers professional development programs, retraining, internships of teaching staff at the international level	pers.	1		-	
2.3	Promotion of teaching staff publications in international publications indexed by the Web of Science and Scopus databases	Increase in the share of teaching staff who have published research results in publications indexed by the Web of Science and Scopus databases – at least 30% of the total number of teaching staff	%	30		30	
2.4	Involvement of practical specialists in teaching and research activities	Participation of practical specialists in the implementation of educational programs (at least 20% of specialists)	%	10		20	
<b>Direction 3. Internationalization of educational programs</b>							
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	units.	1		-	
3.2	Attraction of foreign students to study under the educational program 7M07201 "Technology of food products"	Increase in the number of foreign students	people.	1		-	
3.3	Organization of joint scientific and practical events with international partners	Improvement of the effectiveness of scientific and methodological activities of teaching staff, exchange of experience with foreign partners	unit	1		1	

3.4	Inviting foreign specialists to give lectures and consultations on master's projects and dissertations	Improving the content component of educational programs by introducing 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 implement educational programs	Formation of key and professional competencies in accordance with the practice of leading universities	people	-		1	
<b>Direction 4. Logistics and digitalization</b>							
4.1	Step-by-step equipping classrooms with technical training tools (projectors, panels, interactive and multimedia whiteboards, multifunctional devices, web cameras, projector screens, etc.)	Equipping classrooms assigned to the department with technical training facilities (projectors, panels, interactive and multimedia whiteboards, multifunctional devices, web camera, projector screen, etc.)	unit	1		-	
4.2	Automation of the educational process (testing, session management, student movement, dean's office, department, teaching staff load, schedule, library, syllabuses)	Information management based on automation of the educational process (testing, session management, movement of the student body, dean's office, department, teaching staff load, schedule, library, syllabus)	fact	+		+	
4.3	Updating the full-text database of research results of teaching staff and students, teaching staff (articles, monographs, etc.)	Increasing the number of results of scientific works of scientists, research of teaching staff and students, teaching staff (articles, monographs, etc.)	unit	2		2	

4.4	Expansion of the fund of scientific and educational literature, including on electronic media for ongoing educational programs	Ensuring the implementation of educational programs based on modern educational and information resources, including on electronic media	%	10		10	
4.5	Monitoring the content and improvement of the faculty website	Formation of the faculty website on various aspects of the implementation of educational programs.	%	10		10	

Head of the department

Kakimova Zh.Kh.

**REVIEWED**

at a meeting of the Commission for Quality Assurance of Engineering  
Faculty of Technology  
Protocol 5, May 25, 2023

Chairman

Abdilova G.B.

**APPROVED**

Dean of the Faculty of Engineering and  
Technology  
May 26, 2023



Nurymkhan G.N.