



# EDUCATIONAL PROGRAM

**8D07 - Engineering, Manufacturing and Civil engineering**  
(Code and classification of the field of education)

**8D072 - Manufacturing and processing**  
(Code and classification of the direction of training)

**0720**  
(Code in the International Standard Classification of Education)

**D111 - Food production**  
(Code and classification of the educational program group)

**8D07201 - Technology of food products**  
(Code and name of the educational program)

**Doctor of philosophy (PhD)**  
(Level of preparation)

## **Educational program**

**8D07 -- Engineering, manufacturing and construction industries**  
(Code and classification of the field of education)

**8D072 - Industrial and manufacturing branches**  
(Code and classification of the direction of training)

**0720**  
(Code in the International Standard Classification of Education)

**D111 - Food production**  
(Code and classification of the educational program group)

**8D07201 - Technology of food products**  
(Code and name of the educational program)

**Doctor of philosophy (PhD)**  
(Level of preparation)

## PREFACE

### Developed

The educational program 8D07201 - Technology of food products in the direction of preparation 8D072 - Industrial and manufacturing branches on the basis of the State Compulsory Standards of Higher and Postgraduate Education approved by the Order of the Ministry of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 No 2 (as amended by the order) was developed by the Academic Committee dated 20.02.2023 No 66).

Members of the Academic Committee	Full name	Academic degree, academic title, position
Head of the Academic Committee	Nurymkhan Gulnur Nesiptaevna	Dean of the "Research School of Food Engineering", Associate Professor
Educational program manager	Idyryshev Berik Arystanbekuly	Lecturer, PhD, Department of Food Technology
Member of the AC	Amirkhanov Kumarbek Zhunusbekovich	Professor of the Department of Food Technology
Member of the AC	Nurgazezova Almagul Nurgazezovna	Associate Professor of the Department of Food Technology
Member of the AC	Suychinov Anuarbek	Director of the Semey branch of Kazakh Scientific Research Institute of Processing and Food Industry LLP
Member of the AC	Baitukenova Sholpan	Acting Associate Professor "Kazakh Agrotechnical Research University named after S. Seifullin
Member of the AC	Muslimova Nazerke	Doctoral student of the Department of Food Technology
Member of the AC	Beisembayeva Galiya	Doctoral student at the Department of Food Technology

### Reviewing

Full name of the reviewer	Position, place of work
Igenbaev Aidyn Kayyrbekovich	Kazakh Agrotechnical Research University named after S. Seifullin

### Reviewed

at a meeting of the Academic Quality Committee of the Faculty of Engineering and Technology Protocol No. 3 dated 15.01.2024

at a meeting of the Academic Quality Committee of the Research School of Food Engineering Recommended for approval by the Academic Council of the University Protocol No. 1 , dated 06.06.2024

### Approved

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# 1.Introduction

## 1.1.General data

The curriculum of the discipline (course) is a mandatory part of the main educational program. The program of each discipline (course) is aimed at implementing a single target setting for training a specific specialist and is a basic educational and methodological document.

The introduction of a modular system for organizing the educational process imposes special requirements for the preparation of academic programs, their structure and content. The curriculum of the discipline is developed for each direction (specialty) of higher professional education, indicating the corresponding stage (level).

When implementing the educational program, it is planned to use artificial intelligence tools in the educational process, thereby developing digital competencies among students in a rapidly changing technological environment.

The educational program provides for the education of a student with special educational needs in the conditions of a higher educational institution, as well as his socialization and integration into society.

## 1.2.Completion criteria

The main criterion for the completion of the educational process in the educational program "8D07201 food Technology" is the development of at least 45 credits of theoretical training, as well as at least 10 credits of pedagogical practice, 10 credits of research practice, 123 credits of research work, at least 12 credits for writing and defending a doctoral dissertation. A total of 180 credits.

1.3.Typical study duration: 3 years.

## 2.PASSPORT OF THE EDUCATIONAL PROGRAM

2.1.EP purpose	Training of highly qualified specialists, competitive in the international labor market, for food industry enterprises with professional and social competence, meeting the requirements of the modern economy and labor market.
<b>2.2.Map of the training profile within the educational program</b>	
Code and classification of the field of education	8D07 - Engineering, manufacturing and construction industries
Code and classification of the direction of training	8D072 - Industrial and manufacturing branches
Code in the International Standard Classification of Education	0720
Code and classification of the educational program group	D111 - Food production
Code and name of the educational program	8D07201 - Technology of food products
2.3.Distinctive features of the OP (double degree/joint, OVPO-partner, Double major, innovative)	-
<b>2.4.Qualification characteristics of the graduate</b>	
Degree awarded / qualification	Doctor of philosophy PhD in the educational program 8D07201 - Technology of food products
Name of professional standard	Professional standard: Teacher (faculty) of higher and (or) postgraduate education organizations
Atlas of new professions	-
Regional standard	-
Name of the profession / list of positions of a specialist	<p>May hold positions:</p> <ul style="list-style-type: none"> <li>• general manager;</li> <li>• Director (head) of the organization;</li> <li>* Deputy Director (head) of the organization for scientific work;</li> <li>• chief engineer of the organization;</li> <li>• scientific Secretary;</li> <li>• head of the food industry research laboratory;</li> <li>* head and leading specialist in research institutes, SPC, food production institutions, structural divisions of the Ministry of agriculture;</li> <li>* teacher in higher and secondary educational institutions of food profile;</li> <li>* specialist in agricultural formations of various forms of ownership, agricultural production institutions, land and territorial committees;</li> <li>* expert in projects carried out on a tender basis and in various food and agricultural funds, etc.</li> </ul>
OQF qualification level (industry qualification framework)	8
Area of professional activity	The field of Professional activity of the PhD doctor is all branches of the processing industry, food certification enterprises, sanitary supervision enterprises, institutions of state bodies that control food safety, research organizations, as well as firms of various forms of ownership, higher education institutions.

Object of professional activity	<ul style="list-style-type: none"> <li>- higher education institutions (Shakarim State University, Almaty Technological University, Kazakh national agrarian University, S. Seifullin Kazakh state agrarian and technical University, West Kazakhstan agrarian and technical University named after S. Seifullin). Zhangirkhan etc.);</li> <li>- research institutes (Kazakh research Institute of processing and food industry, Kazakh research Institute of fruit and viticulture, Kaznii of agriculture and crop production, Kaznii of soil science and Agrochemistry named after U.Uspanov, kaznii of potato and vegetable farming, kaznii of rice growing, Kaznii of grain farming named after A. I. Barayev; Pavlodar research Institute, Karaganda research Institute of Sir, etc.);</li> <li>- research and production and methodological centers;</li> <li>- state enterprises of the MES system and the Ministry of agriculture of the Republic of Kazakhstan; expert and design institutions,</li> <li>- agricultural formations, committees, firms, etc. of various forms of ownership.</li> <li>- enterprises that produce and control food products, institutions of state bodies that control food safety.</li> </ul>
Types of professional activity	<p>Graduates of the educational program "8D07201 technology of food products" can perform the following types of professional activities:</p> <ul style="list-style-type: none"> <li>production and technological;</li> <li>organizational and management;</li> <li>experimental research educational (scientific and pedagogical).</li> </ul>
<b>2.5. Graduate Model</b>	<p>Be able to use the possibilities of written communication in the academic and scientific-technical field when writing research papers and conducting classes;</p> <ul style="list-style-type: none"> <li>- Interpret the results of scientific research and the limits of their application;</li> <li>- Implement methods and take part in the implementation of measures to improve production efficiency aimed at reducing the consumption of raw materials, reducing labor intensity, increasing labor productivity;</li> <li>- To create scientifically based nutrition concepts based on the need for nutrients and energy for individual groups of the population;</li> <li>- Possess various educational technologies, methods and techniques of oral and written presentation of the subject material, contributing to the improvement of the quality of the educational process;</li> <li>- Apply practical skills and teaching methods in higher education school;</li> </ul>

	<ul style="list-style-type: none"><li>- Apply innovative knowledge in resource-saving technologies for the implementation of production activities;</li><li>- To conduct independent scientific research characterized by academic integrity, based on modern theories and methods of analysis;</li><li>- The ability to search, select and use new information in the field of development consumer market, systematize and summarize information;</li><li>- Generate your own new scientific ideas, communicate your knowledge and ideas to the scientific community, expanding the boundaries of scientific knowledge</li></ul>
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## 3. Modules and content of the educational program

### Theory and practice of food production

#### Brief description of the module content

The module "Theory and practice of food production" is devoted to an in-depth study of technologies and processes used in modern food production. It combines theoretical aspects related to chemistry, microbiology and food processing technology with practical skills needed to manage and optimize production processes. The module also focuses on an analytical approach and critical understanding of current trends in the food industry, disadvantages and prospects for its development. Students have the opportunity to develop their own research projects aimed at solving current problems in the field of food technology.

#### Module disciplines

Academic writing

Research methods

### Innovative knowledge

#### Brief description of the module content

The module "Innovative knowledge" focuses on modern methods and technologies of food development and production. It includes the study of new ingredients, processing and packaging systems, as well as the application of sustainable and environmentally friendly technologies. The educational process covers both theoretical aspects and practical application of innovations in the food industry aimed at meeting consumer needs and improving product quality. Students acquire skills in analyzing current trends and developing competitive products based on the latest achievements of science and technology.

#### Module disciplines

Innovative technological processes in the production of new foods

Innovative Technology of food products

Method of teaching of engineering subjects

Scientific-theoretical basis for the creation of combination products

Pedagogical practice

### Research and technological knowledge

#### Brief description of the module content

The module "Research and technological knowledge" is aimed at in-depth study of research methods in the field of food technology. It covers topics related to the analysis of the compositions and properties of products, the development of new technologies for their processing and preservation, as well as innovative approaches to assessing the quality and safety of food. The training includes both theoretical research and practical application of scientific methods, which allows doctoral students to independently conduct research, publish the results and put them into practice. The module also focuses on critical thinking and an interdisciplinary approach to solving current problems in the field of food science.

#### Module disciplines

Statistics and experimental design using R

Doctoral student research work, including internship and doctoral dissertation I

Doctoral student research work, including internship and doctoral dissertation II

Doctoral student research work, including internship and doctoral dissertation III

Doctoral student research work, including internship and doctoral dissertation IV

Research practice

Doctoral student research work, including internship and doctoral dissertation V

Doctoral student research work, including internship and doctoral dissertation VI

### Final assessment

#### Brief description of the module content

Writing and defending a doctoral dissertation

#### Module disciplines

Doctorly dissertation orau translation

#### 4. Summary table on the scope of the educational program «8D07201 - Technology of food products»

Name of discipline	Cycle/ Component	Term	Number of credits	Total hours	Lec	SPL	LC	IWST	IWS	Knowledge control form
<b>Theory and practice of food production</b>										
Academic writing	BS/US	1	5	150	15	30		35	70	Examination
Research methods	BS/US	1	5	150	30	15		35	70	Examination
<b>Innovative knowledge</b>										
Innovative technological processes in the production of new foods	BS/US	1	5	150	45			35	70	Examination
Innovative Technology of food products	AS/CCh	2	10	300	90			70	140	Examination
Method of teaching of engineering subjects	AS/CCh	2	10	300	90			70	140	Examination
Scientific-theoretical basis for the creation of combination products	AS/CCh	2	10	300	90			70	140	Examination
Pedagogical practice	BS/US	3	10	300						Total mark on practice
<b>Research and technological knowledge</b>										
Statistics and experimental design using R	BS/US	1	3	90	15	15		20	40	Examination
Doctoral student research work, including internship and doctoral dissertation I	AS/US	1	15	450						Total mark on practice
Doctoral student research work, including internship and doctoral dissertation II	AS/US	2	20	600						Total mark on practice
Doctoral student research work, including internship and doctoral dissertation III	AS/US	3	20	600						Total mark on practice
Doctoral student research work, including internship and doctoral dissertation IV	AS/US	4	30	900						Total mark on practice
Research practice	AS/US	5	10	300						Total mark on practice
Doctoral student research work, including internship and doctoral dissertation V	AS/US	5	20	600						Total mark on practice
Doctoral student research work, including internship and doctoral dissertation VI	AS/US	6	18	540						Total mark on practice
<b>Final assessment</b>										
Doctorly dissertation orau translation		6	12	360						

**NON -PROFIT LIMITED COMPANY «SHAKARIM UNIVERSITY OF SEMEY»**

**EDUCATIONAL PROGRAM DEVELOPMENT PLAN**  
8D07201- Technology of food products  
for 2024-2027

Semey-2024 y.

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### 1. Passport of the Development Plan of the EP of doctoral studies 8D07201- Technology of food products

1	Basis for development	Development program of the Non -Profit Limited Company «Shakarim University of Semey» for 2023-2029. School Work Plan
2	Implementation timeframe	2024 to 2027.
3	Expected results of realization	Preparation of competitive scientific and pedagogical personnel, who are proficient in modern methods and means of research and are capable of solving modern problems of science and production, satisfying the needs of society, as well as developing innovative technologies and solving the problems of industrial-innovative development of the country, the individual, the 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 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.

The main criterion for the completion of the educational process is the mastering of at least 180 credits, with the award of the degree of Doctor of Philosophy (PhD) in the educational program 8D07201- Food Technology.

The history of training of scientific and pedagogical staff at the Faculty of Engineering and Technology begins from the 90s of the last century. After independence, postgraduate studies, doctoral studies and dissertation council for the defense of candidate and doctoral dissertations were opened.

After the transition to three-level training, PhD-doctoral training was organized, and since 2016 the Dissertation Council for the defense of doctoral and PhD theses on the specialties 8D07201- "Technology of Food Products" and 8D07202 - "Food Safety" has been functioning.

The specialty "Technology of food products" provides training at three levels of bachelor-master-doctor PhD.

The uniqueness of the doctoral program 8D07201- "Technology of food products" is a traditionally formed system of training of highly qualified and competitive in the domestic and international labor market scientific and pedagogical staff with professional and scientific competencies and skills to implement them in practical and scientific activities. As well as the presence of a dissertation council on the specialty 8D07201- "Technology of food products" since 2016.

The advantage of this educational program is the availability of sufficient material and technical base, highly qualified teaching staff with sufficient scientific and pedagogical experience, high retention of teaching staff. The development plan of the program is carried out in accordance with the strategic development of the University and the main national priorities of science and technology development.

## 2.2 Information on students

School year	2024-2025 academic year	2025-2026 academic year	2026-2027 academic year
Basis of learning			
Grant	4	-	-
Treaty	-	-	-
Total	4	-	-

## 2.3 Internal and external conditions for EP development

For the training of students on EP 8D07201-Technology of food products, the department has modern educational and scientific laboratories, technical means of training. Doctoral students also use the material and technical base of the departments of the faculties, the Scientific Center for Radioecological Research and the Scientific Center "Agrotechnopark".

The department has 8 lecture halls (214, 301, 306, 308, 310, 314, 318) and 10 laboratories (205, 206, 207, 208, 215, 305, 307, 309, 311). Lecture halls are equipped with interactive whiteboards and monitors, laboratories with modern instruments and equipment.

Laboratory classes and scientific research of students are conducted in the laboratories "Food Technology", "Food Expertise", "Food Safety", "Laboratory of Food Biotechnology", "Laboratory of Biopreparations".

The equipment of training laboratories meets the safety requirements: there are laboratory passports, safety instructions, safety logs, primary fire extinguishing equipment. The level of modern equipment of training and laboratory premises is high enough, which fully corresponds to the goals and objectives of training specialists.

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

The teaching staff of the department have personal computers and free access to the Internet.

Realization of academic mobility of students and teaching staff, passing of scientific internships by students is carried out with such universities of RK as: ATS "Toraigyrov University", ATS "Kokshetau University named after Sh. Ualikhanov, NAO "Kazakh Agrarian-Technical University named after S. Seifullin". S Seifullin".

External partners: FGBNU "Federal Altai Scientific Center of Agrobiotechnology" Department "Siberian Research Institute of Cheese Making", Barnaul, Kemerovo State University, Kemerovo, Novosibirsk State Agrarian University, Novosibirsk, Plovdiv University of Food Technologies, Bulgaria.

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

The teaching staff for students includes teachers with academic degrees. The teaching staff of this OP meets the qualification requirements for the licensing of educational activity and has full knowledge, possesses modern teaching methods, which allows to organize an effective educational process. Consequently, the teaching staff ensures the quality of the educational program to the full extent.

The realization of the educational program 8D07201-Technology of food products at the department is carried out by 9 teachers, including 2 professors, 7 associate professors. The tenure of the department is 65%.

Hiring and distribution of duties is carried out in accordance with the qualification requirements set for teaching staff by the legislative acts of the Republic of Kazakhstan. Annual attestation of full-time teaching staff at the meetings of the commission is carried out.

The University provides all the necessary conditions for quality work in a professional environment. Thus, sociological surveys are conducted annually, which help to identify pressing problems and find ways to solve them.

Professional and personal development of the teaching staff, independent professional development, acquisition of knowledge on the taught course of disciplines implementing the EP is stimulated by the following types of incentives and allowances to the salary of employees: for teaching in English; for internship or training abroad; for the quality of scientific results; for administrative functions; according to the results of the rating system of evaluation of the teacher's activity.

On the competence of teaching staff depends on the achievement of high results in the fulfillment of the mission, increasing the prestige of the university, its competitiveness. The teaching staff of EP 8D07201- "Technology of food products" has a necessary set of competencies required to assess the knowledge of students. The teaching staff of the department meet the qualification requirements for employees of the university. New competences of the teaching staff are acquired by means of professional development courses and internships. During the advanced training courses professional-pedagogical skills, communication skills, ICT skills, additional competence, etc. are acquired. For this purpose, the university also conducts in-house professional development courses, for example, in the summer period of 2021 professional development courses "Digital



technologies in the educational process of distance learning" were held, as well as annually, according to the general university plan, the teaching staff, who need to improve their professional skills, are sent to the courses.

<b>№</b>	<b>Indicators</b>	<b>unit</b>	<b>2024-2025 academic year</b>	<b>2025-2026 academic year</b>	<b>2025-2027 academic year</b>
1	Share of teaching staff with academic degrees in the OPs	%	100	100	100

### **2.5 Characterization of the achievements of the EP**

The achievements of EP 8D07201-Technology of Food Products include the systematic training of scientific and pedagogical staff and the defense of doctoral dissertations:

In December 2022, 2 dissertations on EP "Technology of food products" were defended at the meetings of the dissertation council:

- Dissertation work of Idyryshev Berik on the theme: " Development of technology for a semi-meat functional product using a plant mixture.". Scientific adviser - Candidate of Technical Sciences, Associated Professor A.N. Nurgazezova.
- Dissertation work of Amirhanov Shyngys on the theme " Development of technologies for meat products with reduced trans fat content ". Scientific adviser - PhD, A.K. Igenbaev.

A scientific project is being implemented on program-targeted financing of the Ministry of Science and Higher Education of the Republic of Kazakhstan on the topic: "Development of a system for ensuring the safety of food products under long-term storage conditions based on electrophysical and radiation processing methods" for 2023-2025 with a funding volume of 450 million tenge. Scientific supervisor - PhD, Associate Professor Kalibekkyzy Zh.K.

A postdoctoral grant was won by B.A. Idyryshev on the topic: AP22684076 "Development of a technology for a functional meat product with an optimized fatty acid composition using local plant materials" for 2024-2026.

Almost all doctoral students to the defense have published scientific articles in peer-reviewed journals Scopus and Web of Science, in journals from the List of QAC MSHE RK and patents for utility models.

The achievements of the EP also include the functioning on the basis of the contract of the branch of the department on the basis of SF LLP "Kazakh Research Institute of Processing and Food Industry", where doctoral students conduct research and approbation of developed technologies.

### **3. main objectives of the EP development plan**

One of the requirements to the plans of EP development is their compliance with the mission, strategic goals and objectives of the university, the presence of a section on the improvement of activities.

The analysis has shown that the implementation of educational programs is carried out in accordance with the mission, development strategy of the university, vision and values of the educational organization.

The development plan and objectives of the EP are developed in accordance with the educational policy of the Republic of Kazakhstan and the Academic Policy of the University. The tasks implemented within the framework of the EP are aimed at developing competencies and practical skills necessary for successful work in the chosen field of activity, possession of basic subject-specialized knowledge and personal qualities that contribute to its social mobility and sustainability in the labor market.

The main objectives of the EP development plan are:

1. Preparation of scientific and pedagogical staff meeting the requirements of the modern labor market.
2. Interaction of the university with employers, with leading research centers and universities for quality internship of doctoral students
3. Graduation of competitive specialists with knowledge of professional foreign language and digital technology.
4. Improvement of material and technical base and research potential of EP 8D07201-Technology of food products.

### **4. risk analysis of the EP**

1. Decrease in the contingent of doctoral students.
2. Insufficient level of academic mobility of students and faculty.
3. Insufficient number of teachers who speak foreign languages.
4. Moral and material deterioration of scientific instruments and facilities for research performance
5. Insufficient number of scientific publications of teaching staff in peer-reviewed foreign journals.
6. Low level of foreign language skills of applicants entering the doctoral program.

№	Name of risks	Remedial actions
1	Decrease in the contingent of students under the OP	Strengthening career guidance work among graduates of the university's master's program.
2	Insufficient language proficiency to implement trilingual education	Creation of conditions for enhanced language training of teaching staff by means of compulsory attendance of foreign language courses. Organization of foreign language courses for the preparation of applicants
3	Decrease in the employment rate	Targeted distribution of doctoral students
4	Insufficient development of external and internal academic mobility of students and teaching staff	Conclusion of agreements and memorandums with leading universities of the Republic of Kazakhstan, near and far abroad
5	The risk of reducing the degree of teaching staff in the PPC of EP	Timely defense of dissertations by doctoral students and systematic work of the dissertation council

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

№	Criteria	Expected results	unit	2024-2025	2025-2026	2026-2027
<b>Orientation 1. Educational and methodological support</b>						
1.1	Updating the educational program on the basis of professional standards, taking into account the recommendations of employers	Examination of the Educational Program "Technology of Food Products" in order to improve practice-orientedness and development of professional competencies of graduates	fact.	-	-	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
1.3	Introduction of modern teaching technologies into the educational process, promoting 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 promote the development of cognitive activity 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.	fact.	-	-	1
1.3.1	Introduction of massive open online courses (MOOCs) on the educational program into the educational process	Introduction in the educational process of disciplines improvement of the quality of teaching of educational disciplines, taking into account the novelty and variety 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	Improving the quality of implemented educational programs taking into account market demands and employers' recommendations	unit	-	-	1

<b>1.5</b>	Development and implementation of elective courses in English	Introduction of disciplines in English into the educational process	unit	-	-	1
<b>1.6</b>	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
<b>1.7</b>	Publication of educational, educational-methodical and scientific literature on the implemented OPs	Improvement of teaching and methodological support for the disciplines of the implemented educational programs	unit	-	1	1
<b>1.8</b>	Conclusion of agreements with foreign and domestic partner universities in order to develop academic exchange of students of all levels and faculty members	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
<b>1.9</b>	Inviting students from partner universities to study for a semester, short-term internships, practical training.	Development of international recognition of educational programs, implementation of programs of academic mobility of students	man.	-	1	1
<b>1.10</b>	Participation of faculty and students in international academic exchange programs	Development of international cooperation with foreign universities implementing educational programs of in the direction	man.	-	1	1
<b>1.11</b>	Development of outgoing academic mobility of teaching staff and students of in the direction	Improvement of the educational program on the basis of using the experience of similar programs in the leading universities of RK.	man.	-	-	1

<b>Orientation 2. Faculty members</b>						
<b>2.1</b>	Professional development and training of scientific and pedagogical staff for the implementation of educational programs once every 5 years	Share of faculty members who have undergone advanced training at the national level at least 20%	man.	1	1	1
<b>2.2</b>	Professional development, retraining, internship of teaching staff at the international level	Completion of at least 2 teachers of the program of professional development, retraining, internship of teaching staff at the international level	man.		1	
<b>2.3</b>	Promotion of faculty publications in international editions indexed by Web of Science and Scopus databases	Increase in the share of faculty members who have published the results of scientific research in publications indexed by Web of Science and Scopus databases - at least 30% of the total number of faculty members	%	30	35	40
<b>2.4</b>	Involvement of practitioners in teaching and research activities	Participation of practitioners in the implementation of educational programs (at least 20% of specialists)	%	20	20	20
<b>Orientation 3: Internationalization of educational programmes</b>						
<b>3.1</b>	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
<b>3.2</b>	Attracting foreign students to study in the educational program "Technology of Food Products"	Increase in the number of foreign students	man.	-	-	-

3.3	Organization of joint scientific-practical activities with international partners	Improving the efficiency of scientific and scientific-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	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
3.5	Expansion of cooperation with advanced 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	man.	-	-	1
<b>Orientation 4: Logistics and digitalization</b>						
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
4.2	Automation of the educational process (testing, session management, student contingent movement, dean's office, department, faculty workload, timetable, library, syllabus)	Information management based on the automation of the educational process (testing, session management, student contingent movement, dean's office, department, faculty workload, schedule, library, syllabus)	fact.	-	-	-

4.3	Replenishment of the full-text database of the results of scientific research of faculty and students, teaching staff (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
4.4	Expanding the collection of scientific and educational literature, including on electronic media for the educational programs being implemented	Ensuring the implementation of educational programs on the basis of modern educational and information resources, including electronic media	%	-	20	25
4.5	Monitoring of the content and improvement of the Faculty's website	Formation of the faculty website on various aspects of the implementation of educational programs.	%		100	100

Head of the department Kag Kasymov S.K.

**REVIEWED**

at the meeting of the Commission on Academic Quality  
of the Research School of Food Engineering  
Protocol of the meeting No. 1 dated 06.06.2024

Chairman Sherep Toleubekova S.S

**AGREED**

Dean Hayat Nurymkhan G.N.  
06.06.2024