Ministry of Agriculture of the Republic of Kazakhstan
NCJSC "S.Seifullin Kazakh AgroTechnical University"

Considered
at the meeting of the University
Academic Council
Report № 19
Dated from 31.08.2022

APPROVE
Chairman of the Board of
NCJSC "S.Seifullin Kazakh
Agrotechnical University"
_____
"___" _____ 2022

EDUCATIONAL PROGRAMME

7M07201 - «Food technology»

Code and classification of educational area: 7M07 Engineering, process and construction industry

Code and classification of field of study: 7M072 –Production and processed line

Code in International standard classification of education: 0720

Awarded degree/qualification: master of methods and technology by educational program 7M07201 - «Food technology»

Duration of study: 2year

Nur-Sultan 2022

Authoring team:

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The team of authors approved by the order of NCJSC "S.Seifullin Kazakh Agrotechnical University"№ 964-H 28.12.2018.

Educational program "Technology of food products"considered at the meeting of the the Department of Food Technology and processing products
report № 10 from 28 of June 2022,
approved by the Faculty Council
report № 10(E) from 29 of June 2022

Content

1Passport of educational programme

1.1The purpose of educational programme

The purpose of the educational program "Food technology" for undergraduates profile direction is to instill management skills, training of leading specialists in the field of technology of dairy and meat products, as well as managers of the food industry. **The specialized direction of the graduate course** implements educational programs of postgraduate training for the food and processing industries with in-depth professional training. The profile direction of the magistracy is a one-and-a-half-year program, which is aimed at professional specialization in the chosen field.

Tasks of EP:

- theoretical training, including the study of basic and core disciplines;
- professional (industrial) practice;
- experimental research work, including the implementation of the master's thesis.
- conducted in compliance with the basic problems of occupation for which defends thesis;
- to form the ability to analyze the scientific information, highlight the problematic aspects and the ability to apply this knowledge in practice;
- - to form undergraduates professional skills and competencies that contribute to the solution of theoretical and practical aspects of the most promising trends in agriculture, knowledge and application of the requirements of the program 4.0 Industry.

1.2 Educational outcome (codes)

ON 1- To apply the acquired knowledge of the theoretical and methodological foundations of higher school pedagogy, vocational education in the implementation of educational activities

ON 2- Have the ability to communicate to solve problems of interpersonal and intercultural interaction

ON 3- Possess the skills for written and oral professional communication in one of the foreign languages

ON 4- Be ready to lead a team in the field of their professional activities, tolerantly perceiving social, ethnic, confessional and cultural differences

ON 5- Have the skills to plan and develop innovative technologies for the processing industry and food production based on scientific achievements;

ON 6- To acquire skills and abilities to develop new methods and means of designing information systems based on modern technologies, to develop and study theoretical and experimental models of objects in the food and processing industry in order to introduce information technologies

ON 7- To apply knowledge of methodology and methods of experimental research in production and scientific activities

ON 8- Possess theoretical and practical fundamentals of waste-free technologies and technologies of deep processing of raw materials in the production systems of the food and processing industry.

2. General characteristics of the educational program (relevance, features, competitive advantages, uniqueness, stakeholders, etc.)

The food industry of the Republic of Kazakhstan is one of the strategic sectors of the economy, so ensuring a high level of its development, improving the efficiency of the food processing industry is the most important task at the moment.

In this regard, the training of competitive specialists who have successfully mastered modern educational programs on technologies of food and processing industries and management of enterprises that are able to independently develop modern food technologies and engage in management activities is one of the urgent tasks in the Republic of Kazakhstan.

The peculiarity of the EP is that it is a mirror image of the program of the University of California Davis (USA), and was created within the framework of the State program of industrial and innovative development of Kazakhstan for 2015-2019, together with professors of the University of Davis and taking into account the recommendations of leading industry experts. It is to improve the organization of work of undergraduates by consolidating theoretical knowledge and practical skills on the basis of its own scientific and experimental platform for the production and processing of agricultural products. Training is carried out through the use of video cameras installed in classrooms and in production and experimental workshops**.**

The EP also provides for the possibility of training in multilingual groups and dual technology, i.e. the theoretical part of the classes takes place in the classrooms of the University, and practical classes are held on the basis of industrial enterprises. Currently, dual technology training is widely practiced with LPP «JFOOD KAZAKHSTAN».

Competitive advantages of the EP is to prepare graduates of a magistracy on directions "Technology of food products" which will provide the degree of adaptation of graduates to market conditions and willingness to change the profession and also for further improvement obtained at the University of education, EP developed taking into account modern requirements of knowledge of graduates of both technology and management. In addition, graduates have the opportunity to test the results of scientific research in their own departments of the University. The master's degree means the annual, half yearly and biennial training. The advantages provided by this program is that the undergraduate has the right to choose the best terms of training, taking into account his employment and career growth, as well as interest in scientific and pedagogical direction.

The uniqueness of the proposed educational program for a large part of the masters who studied on the technology of food and processing industries is to obtain the qualification of "Food Technology" gives a real opportunity to find in the market of skilled labor appropriate professional niche, both in the field of technology of food and processing industries , and in the management structure in the sectors of food and processing industry. The uniqueness of this educational program is that the undergraduate is given the right to choose a specialization.

Introduction to the educational process of the proposed program will position graduates as **stakeholders**, whose actions, knowledge and competencies will demonstrate the success of this program. Skateholders of EP are: the Ministry of agriculture of RK (Department of production and processing of livestock and crop production), the accredited OPS and IL,

NCE RK "Atameken", the enterprises of the food and processing industry, research institutes and centers

For complex management of quality and safety of food products, ensuring competitiveness and efficiency of activity at the expense of increase of trust and loyalty of consumers, decrease in costs of the enterprise on elimination of consequences of release of substandard and dangerous production creation of modern management systems is necessary.

The educational program "food Technology" will prepare students for innovation in the industry, learn how to manage new ideas and apply knowledge to create a new business.

3 Competence-based model (pattern) of a graduate student

3.1 Areas of professional activity

The educational program "Food Technology" covers the food and processing industry, educational organizations, design, experimental research organizations, enterprises of various forms and types of ownership, new methods of collection and analysis of scientific and technical information, new technologies and products, types of food ingredients, as well as areas of management, as middle and senior managers.

There is a great demand among employers for specialists with practical skills in food production, Analytics, quality assurance, Economics and business management.

Graduates of the master's program will be in demand in many companies, from small and medium-sized companies to large corporations, universities as teachers, doctoral students and research institutes. Graduates can also work in technology innovation centers, innovative food companies, or government agencies.

The University provides a solid Foundation of knowledge and skills that are needed to start your professional career interest, create, manage and grow your business.

3.2 Types of professional activity:

Master students of the educational program "Food Technology" can perform the following types of professional activities:

- management, organization and control of technological processes in the food and processing industry;
- improvement of technological operations and participation in the development of resource-saving technological processes in the development of new types of products; analysis of technical equipment and production activities of enterprises, taking into account the requirements of ecology, labor protection.
-management of labor collectives, adoption of managerial decisions; analysis of technical and economic indicators of enterprises and marketing activities;
- development and design of technological schemes for food and processing industries and reconstruction of existing enterprises;
- study and analysis of scientific and technical information, domestic and foreign experience in the food industry; experimental studies to improve the quality of raw materials, finished products of the relevant branches of food products;
- activities in the field of education.

3.3 General educational competencies:

Improve and develop your intellectual level; collect data, process them using modern information technologies; interpret the results obtained to form judgments on scientific problems; independently apply methods and means of cognition, training and self-control to acquire new knowledge and skills; freely use literature and business written and oral speech in the state language of the Republic of Kazakhstan, create and edit texts for professional purposes, speak a foreign language as a means of business communication; know the methods of scientific research and academic writing and apply them in the field of study; understand the importance of the principles and culture of academic integrity.

3.4 Core competencies:

- demonstrate developing knowledge and understanding in the field of study, based on advanced knowledge of this field, in the development and (or) application of ideas in the context of the study;
- apply at a professional level their knowledge, understanding and abilities to solve problems in a new environment, in a broader interdisciplinary context;
- to collect and interpret information for the formation of judgments, taking into account social, ethical and scientific considerations;
- clearly and unambiguously communicate information, ideas, conclusions, problems and solutions, both to specialists and non-specialists;
- learning skills necessary for independent continuation of further education in the studied area.

3.5 Professional competence

Master, who mastered the educational program of the specialty should:

1) have a performance:

- professional competence of a higher school teacher;
- contradictions and socio-economic consequences of globalization processes;
- on modern methods of management in food processing enterprises;
- methods of planning and management
- ensuring the production of high-quality competitive products that meet the established standards and norms

2) know:

- implementation of educational and pedagogical activity on credit technology of training;
- methods of teaching professional disciplines;
- use of modern information technologies in the educational process;

3) be able:

-integrate the knowledge gained in different disciplines to solve research problems in new unfamiliar conditions;

- by integrating knowledge to make judgments and decisions based on incomplete or limited information;
- apply interactive teaching methods;

-to carry out information-analytical and information-bibliographic work with the involvement of modern information technologies;

- creative thinking and creative approach to solving new problems and situations;

- to apply the advanced domestic and foreign experience in the field of production technology, to develop and participate in the implementation of measures to improve production efficiency aimed at reducing material consumption, reducing labor intensity, increasing labor productivity.

- summarize the results of research and analytical work in the form of a dissertation, scientific article, report, analytical note, etc.;

4) have skills:

- implementation of educational and pedagogical activity on credit technology of training;

- use of modern information technologies in the educational process;

- expanding and deepening the knowledge necessary for daily professional activities and continuing education in doctoral studies.

5) be competent:

- in the implementation of research projects and research in the professional field;

- in ways to ensure continuous updating of knowledge, skills and abilities

4. The base-line of passaged professional internships

Masters, who have mastered this educational program, have an advantage when applying for a job as a technologist, a master of food and processing enterprises of various forms of ownership, a technician-technologist in production, a laboratory chemist in a production laboratory, a specialist in research institutions and Universities, standardization and certification centers, to work in the public service system. After obtaining a master's degree in technical Sciences, it is possible to continue training in doctoral studies, and then provides for the defense of the thesis with the award of the degree of doctor of PhD.

Students have the opportunity to go to foreign research internships in leading universities in Europe, USA and other countries. Scientific training is carried out in the partner universities, within the framework of cooperation agreements with world leading universities: including the University of Angers (Universitéd'Angers, France), University of California Davis (UCDavis, USA), University of applied Sciences Weihenstephan-Triesdorf (Germany), Krakow Agricultural University (Poland), Northwest University of agriculture and forestry, Yangling, Shaanxi (China), Belarusian state agrarian technical University.

For the passage of professional practices undergraduates provided experimental manufactories of Department in the direction of food and processing industry: "Manufactory for the production of meat products", "Manufactory for the production of dairy products", "Manufactory for the production of vegetable oils" and "Manufactory for the production of food (mini-bakery)". There is also agreement about the internship in the following companies: Zarechnoye village, LLP "Molprodukt" Petropavlovsk city, "LLP KazGerKus", Akmola region, Stepnyak city, LLP "Dedov", Karaganda region,Aktas village, LLP "BAYAN Company," Zhezkazgan city. In the direction of "Food Management" in LLP Group of companies "Akmol holding" and LLP Novokubanskoe, LLP "Astyk".

5. The structure of the educational program of master's degree in scientific and pedagogical direction

№ п/п	Name of cycles of disciplines and activities	Total labor intensity	
		In academic hours	In academic credits
1	2	3	4
1.	**Theoretical study**	1920	64
1.1	**Cycle of basic disciplines (BD)**	1050	35
1)	**Academic component (AC):**	**600**	**20**
	including:		
	Pedagogics of higher school	90	3
	Management psychology	150	5
	History and philosophy of science	150	5
	Foreign language (professional)	150	5
	Pedagogical practice	60	2
2)	**Cycle of basic disciplines (CC)**	**450**	**15**
	Biotechnological bases of food production / Microbiological methods of food quality control	150	5
	Food safety: inspection, sanitation and HACCP / Food safety control and quality standards	150	5
	Scientific basis of food production / Nutritionology	150	5
1.2	**Cycle of major disciplines (MD)**	1470	49
1)	**Academic component (AC)**		
	Modern equipment of food production	150	5
	Business planning in the storage and processing of agricultural products	150	5
	Modeling of food production processes	150	5
	Research practice	270	9
2)	**Component of choice (CC)**		
	Modern technologies for the production of meat and dairy products / Innovative storage technology of processing plant products	150	5
	Principles for developing formulations of new types of food products / Technical systems for the production of products of deep processing of vegetable raw materials and biofuels	210	7
	Waste-free production technology of meat and dairy	240	8

	products / Promising technologies of deep processing of vegetable raw materials and the production of biofuels		
	Methods for assessing the quality of processing products / Methods for analyzing products of deep processing of vegetable raw materials and biofuels	150	5
3)	Research work of a master student, including internship and master's thesis (SRWM)	720	24
4)	Scientific-research work	720	24
5)	Design and defense of master's thesis (D&DMTh)	360	12
6)	**Final attestation (FA)**	360	12
7)	**Total**	3600	120

Annex 1. Academic calendar

Approved
Deputy Chairman of the Board for
Academic Affairs - Rector
_____ A.Abdyrov
_____ 2022

ACADEMIC CALENDAR
for 2022-2023 academic year
in areas of Master's training

Beginning of 1st trimester		**1 September**
1	Presentation week	from 1 September to September 2 **(from August 29 to September 2 for 1 course)**
2	***Constitution day***	***30 August***
3	***The day of knowledge***	***1 September***
4	Examination session	from 14 to 25 November
5	***The day of the First President***	***of 1 December***
6	FX delivery	from 14 November to 9 December
7	***Independence day***	***16 December***
8	Holidays	from 28 November to 31 December
9	***The New year's holiday***	***January 1,2,3***
Beginning of 2nd trimester		**1 January**
10	***Christmas***	***7 January***
11	***International Women's Day***	***on 8 March***
12	***Nauryz holiday***	***21,22,23 March***
13	Examination session	from March 13 to 24 March
14	FX delivery	from March 13 to 31 March
15	Holidays	from March 27 to March 31
Beginning of 3rd trimester		***1 April***
16	***Holiday of Unity of Nations of Kazakhstan***	***1 May***
17	***Defender is day***	***7 may***
18	***Victory Day***	***9 may***
19	Examination session	from 12 June to 23 June
20	Holidays	from 26 June to 31 August
21	FX delivery	from 12 June to 30 June
22	Enrollment for a trimester	from 26 June to 30 June
23	Final examination	until June 30
24	Summer trimester	from 3 June to 11 August
25	***Capital Day***	***6 July***

Note: If it concurs with a weekend or a holiday, study begins on the next working day.

Deputy Director of the Department
of Academic Affairs _____ A.Sh.Imasheva

Appendix 1 to the Academic Calendar
Approved by the Academic Council of the NAO 'S.Seifullin KATU',Protocol No. 14 of 13.05 2022.

Schedule of the educational process for 2022-2023 academic year for the educational master's programs of the Technical faculty

Course	September					October					November					December					January					February				March				April				May					June				July				August			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
	29	5	12	19	26	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	14	21
	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25
	1	2	3	4	5	6	7	8	9	10					1	2	3	4	5					6	7	8	9	10				1	2	3	4	5	6	7	8	9	10												

7M08701 "Precision farming" (2 years, winter appointment)

I																			/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	S/DFx	S/DFx	DFx/II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II
I-II	II	/Tp/Rw	/Tp/Rw	/Tp/Rw	/Tp/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rp/Rw	/Rp/Rw	/Rp/Rw	/Rp/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	/Rp/Rw	/Rp/Rw	/Rp/Rw	/Rp/Rw	/Rp/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II

7M08702 "Agroengineering" (2 years)

I	PW	/Rw	/Rw	/Rw	/Rw	/Rw	/Tp/Rw	/Tp/Rw	/Tp/Rw	/Tp/Rw	/Tp/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II

7M07106 "Mechanical Engineering" (2 years, winter appointment)

I																			/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	S/DFx	S/DFx	DFx/II	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II
I-II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	S/DFx	S/DFx	DFx/II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II

7M07106 "Mechanical Engineering" (2 years)

I	PW	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	S/DFx	S/DFx	DFx/II	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II
II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	S/DFx	S/DFx	DFx/II	Rw	Rw/FA	Rw/FA	Rw/FA	Rw/FA	Rw/FA	Rw/FA	Rw/FA	Rw/FA	Rw/FA	FA	FA	FA	FA								

7M07201 "Food science " (2 years, winter appointment)

I																			/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	/Tp/Rw	/Tp/Rw	/Tp/Rw	/Tp/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II
I-II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	S/DFx	S/DFx	DFx/II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II

7M07201 "Food science " (2 years)

I	PW	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	/Tp/Rw	/Tp/Rw	/Tp/Rw	/Tp/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II
II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	S/DFx	S/DFx	DFx/II	Rw	Rw/FA	Rw/FA	Rw/FA	Rw/FA	Rw/FA	Rw/FA	Rw/FA	Rw/FA	Rw/FA	FA	FA	FA	FA								

7M07107 "Transport, transport equipment and technologies" (2 years, winter appointment)

I																			/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II
I-II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	S/DFx	S/DFx	DFx/II	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II

7M07107 "Transport, transport equipment and technologies" (2 years)

I	PW	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	/Rw/Tp	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II
II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	/Rw/Rp	S/DFx	S/DFx	DFx/II	Rw/Rp	Rw/Rp/FA	Rw/Rp/FA	Rw/Rp/FA	FA	FA	FA	FA	FA	FA	FA	FA	FA								

7M07501 "Standardization and certification" (2 years, winter appointment)

I																			/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	/Rw/Tp	/Rw/Tp	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II
I-II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw	Rw	Rw	H/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II

7M07501 "Standardization and certification" (2 years)

I	PW	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	/Rw/Tp	/Rw/Tp	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II/ET	St/II	St/II	St/II	St/II	St/II	St/II	II	II
II	II	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	/Rw	S/DFx	S/DFx	DFx/II	DFx/II	II	II	II	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw/Rp	Rw	Rw	Rw	H	Rw	Rw/FA	Rw/FA	Rw/FA	Rw/FA	FA	FA	FA	FA	FA	FA	FA	FA								

PW - presentation week
\- - theoretical training
DFx - FX delivery
S - examination session
St - summer trimester
ET - enrollment for a trimester

Rw - research work of a magistrate, including the implementation of a master's project
Rp - research practice
Tp - teaching practice

H - holidays
FA - Final attestation

0

Public holidays: 30 August - Constitution day
1 September - The day of knowledge
of 1 December - The day of the First President
16 December - Independence day
January 1, 2, 3 - The New year's holiday
7 January - Christmas

on 8 March - International Women's Day
21, 22, 23 March - Nauryz holiday
1 May -Holiday of Unity of Nations of Kazakhstan
7 May -Defender is day
9 May- Victory Day
6 July - Capital Day

In total weeks: theoretical training - 30 weeks
examination session - 6 weeks
winter holidays - 3 weeks
spring holidays -1 week
summer trimester - 6 weeks

Annex 2 Working curriculum

№ пп	The name of the module	Thecycleofdiscipline	Disciplinecomponent	Codeofdiscipline	Nameofdiscipline	ECTS credits	Type of control	Volume in hours						Distribution of academic hours by semester/trimester/ quarter					
								Total	Auditorium			Extracurricular		1	2	3	4	5	6
									Lectures	Practical lessons	Laboratory lessons	IWSL	IWS						
		BD	**AC**			**20**													
1	Social and pedagogical Sciences	BD	AC	Ped 5203	Pedagogyofhighereducation	3	exam	90	10	20		12	48			3			
2		BD	AC	Psi 5204	Managementpsychology	5	exam	150	20	30		20	80			5			
3		BD	AC	IFN5201	History and philosophy of science	5	exam	150	20	30		20	80			5			
4		BD	AC	IYaP5202	Foreign language (professional)	5	exam	150		50		20	80			5			
		BD	AC	PP5208	Pedagogicalpractice	2		60		60						2			
		BD	**CC**			**15**													
5	Quality management and biotechnological bases of food products	BD	CC	BOPP6202	Biotechnological bases of food production / Microbiological methods of food quality control	5	exam	150	20		30	20	80	5					
6		BD	CC	BPPISN6204	Food safety: inspection, sanitation and HACCP / Food safety control and quality standards	5	exam	150	20		30	20	80	5					
7		BD	CC	NOPPP 5301	Scientific basis of food production / Nutritionology	5	exam	150	20	30		20	80	5					
		BD				**35**													
		MD	**AC**			**20**													
8	Scientific and theoretical basis of technology food	MD	AC	SOPP6302	Modern equipment of food production	5	exam	150	20	30		20	80		5				
9		MD	AC	BPPHOSP5303	Business planning at the enterprises of storage and processing of agricultural products	5	exam	150	20	30		20	80		5				
10		MD	AC	MPPPP6304	Modeling of food production processes	5	exam	150	20	30		20	80		5				
		Research practice	RP	IP6305	Research practice	9	pass/faile xam	270		270								5	4
		MD	**CC**			**24**													
11	High-tech food production	MD	CC	STPMMP6301	Modern production technologies of meat and dairy products/Innovative storage technology of processing plant products	5	exam	150	20	30		20	80				5		
12		MD	CC	PTGPRSPB5306	Technical systems for the production of products of deep processing of plant raw materials and biofuels/Principles for developing formulations of new types of food products	7	exam	210	20		50	28	112				7		
13		MD	CC	MAPGPRSB5307	Promising technologies of deep processing of vegetable raw materials and the production of biofuels/Waste-free production technology of meat and dairy products	8	exam	240	20		60	32	128					8	

14		MD	CC	TSPPGPRSB 5308	Methods of analysis of products of deep processing of plant raw materials and biofuels/Methods for assessing the quality of processing products	5	exam	150	20	30		20	80				5		
		MD				***25***													
	Research work of a master student, Including internship and master's thesis (SRWS)			NIRMVVMD 601		24	pass/faile xam	720		720					5	5		10	4
	Scientific-research work					***24***													
	Design and defense of master's thesis (D&DMTh)			OZMD601		12	pass/faile xam	360		360									1 2
	Final attestation (FA)					***12***													
	Total					**120**		**3600**	**250**	**1780**	**110**	**292**	**1168**	**20**	**20**	**20**	**20**	**20**	**2 0**

Annex 3. Matrix of achievability of the formed learning outcomes in the educational program with the help of academic disciplines.

№	Name of the discipline	Brief description of the discipline	Number of credits	The formed educational outcome							
				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
Cycle of basic disciplines. Academic component											
1	Pedagogics of higher school	The role of public life, science and education, current trends in the development of scientific knowledge; methodology of pedagogical research in solving relevant scientific issues; laws, laws and principles of teaching in higher education in the process of organizing scientific work; psychology of cognitive activity of undergraduates in the educational process; psychological methods and means of increasing efficiency and improving the quality of education	3	+							
2	Psychology of management	During the study of the discipline "Psychology of management" will be considered the conceptual apparatus of management psychology, the head and the teamthe psychology of the order, the person as the subject and the object of management, psychology of criticism, psychotypes of subjects of communication, psychological technique persuasive influence.	5		+						
3	History and philosophy of science	In the process of studying the discipline "History and philosophy of science" undergraduates will be acquainted with the structure of scientific knowledge, with the methods of scientific research, with the functions of scientific theories and laws; will develop ideas about the criteria of scientific, style of scientific thinking.	5				+				
4	Foreign language	The content of the discipline "Foreign language"	5			+					

	(professional)	is aimed at mastering the future masters of foreign language for professional and academic purposes at a professional level, which will freely operate the scientific and conceptual apparatus of the specialty, to expand the scientific and information base, to master the skills of interpretation of scientific information, arguments, beliefs, scientific controversy, academic writing.									
Cycle of basic disciplines. Cycle of basic disciplines											
5	Biotechnological bases of food production	General biotechnological scheme of production of microbial synthesis products. Preparation of enzyme preparations and their application in the food industry. Deep processing of grain raw materials to produce organic acids, alcohols, servants, amino acids, vitamins. Deep processing of animal products. The use of lactic acid bacteria in the production of cheese, dairy products, conservation. Deep processing of meatand fish products. Microbial-protein	5					+			
6	Food safety: inspection, sanitation and HACCP	Concepts of food safety. Law of the Republic of Kazakhstan on food safety. Basic concepts, principles and characteristics of the HACCP system. HACCP quality system in the world practice. The system of ensuring food safety on farms. Development and implementation of HACCP for meat and dairy enterprises. Risk analysis in the Implementation of HACCP	5							+	
7	Scientific basis for food production	The subject of the course is the theoretical and practical basis of technology of food production from raw materials of plant and animal origin, necessary for the effective operation and but specialty, the study of the requirements for raw materials processing methods, skills in the	5					+			

		organization and management of technological processes of food production and the solution of the problems.									
8	Microbiological methods of food quality control	The influence of microorganisms, technological modes, conditions of processing and storage of raw materials on the quality of food products. Modern achievements of microbiology and biotechnology in the food industry. Research of microorganisms and enzyme preparations improving biotechnological processes in food production. Specialized theoretical and practical knowledge for microbiological research. Modern methods of microbiological analysis of food products.	5					+			
9	Food safety control and quality standards	The discipline "Food safety control and quality standards" provides knowledge about pollutants of raw materials and food products, safety standards, skills in preventing the accumulation of pollutants in food products. Basic knowledge about food additives: classification, rationing, control. Labeling of food products. Studies the components of natural food that adversely affect the body and their influence of culinary techniques and technological processes of food processing.	5							+	
10	Nutritionology	State policy in the field of healthy nutrition of the population of the Republic of Kazakhstan. Fundamentals of evidence-based nutrition and healthy nutrition, principles of children's, herodietic, preventive and curative nutrition. Qualitative and quantitative analysis of diets, physiological needs for energy and nutrients, a sociological survey on diet and nutrition regime. The plan of correction of the diet and diet, the	5					+			

		implementation of the correction plan, the basic principles of a healthy diet and adequate physical activity. Prevention of food poisoning. Optimization of diets of various population groups.									
Cycle of major disciplines. Academic component											
11	Modern equipment for food production	The course of technological equipment provides for the study of modern forms of production organization. Study of engineering problems of food production and machine-hardware solutions. Equipment for the preparation of raw materials, semi-finished products and basic production operations. Development of technological equipment for heat and mass transfer.	5						+		
12	Business planning in the storage and processing of agricultural products	Selection of the enterprise development strategy and its reflection in business plans. Basic requirements for the development of business plans. Principal models of the business plan. Development section of the business plan "production Plan". Preparing to develop a business plan. The method of developing a marketing plan. Determination of production and sales of products (services). Evaluation of the use of resources. Planning for staffing requirements. Balance sheet fore cast						+			
13	Modeling of processes of food production	Basic concepts of mathematical modeling. Theoretical foundations and mathematical modeling of grain separation and grinding processes. Theoretical basis and mathematical modeling of the processes of salting meat. Mathematical modeling and optimization of nutrient conservation during sterilization. Theoretical basis and mathematical modeling of	5							+	

		raw material storage processes									
Cycle of major disciplines. Component of choice											
14	Modern technologies for the production of meat and dairy products	Analysis of domestic and foreign scientific and technical literature on the technology of processing, storage and processing of meat, dairy and fish products using computer tools. Possession of information technologies in the process of studying the properties of plant and animal raw materials, semi-finished products and products from plant and animal raw materials.	5						+		
15	Innovative storage technology of processing plant products	To study the issues of creating innovative technology for processing, storage and processing of cereals, legumes and oilseeds; physiological, biochemical and microbiological changes occurring in grain during storage. Special attention in this subject is focused on solving topical issues of disinsection, hydrothermal, ultrasonic, laser, desiccation, thermal radiation, electromagnetic, ozone and ion technologies at grain processing enterprises.	5					+			
16	Technical systems for the production of products of deep processing of vegetable raw materials and biofuels	Classification of equipment for deep processing of raw materials and products of biofuel production. Equipment for mechanical separation and mixing of raw materials and products of biofuel production; Equipment for filtration and flotation of raw materials and products of biofuel production. Equipment for concentration and purification of raw materials and products of biofuel production. Equipment for fermentation of raw materials in the production of biofuels	7								+
17	Principles for developing formulations of new types	This is a new scientific direction of research that allows us to develop the composition of complex multicomponent products with a given set of	7						+		

	of food products	qualitative and quantitative indicators, using the basic principle of the theory of balanced nutrition - food nutrients must enter the human body in a certain amount and ratio. By varying the composition of prescription mixtures, enriching them with essential nutrients, it is possible to achieve a certain direction of physiological impact. When developing new formulations, the possibility of modeling the consumer characteristics of finished products, predicting their biological safety, quality and functional and technological properties, taking into account the phenomenon of synergy, is also of great importance, which ultimately makes it possible to increase their competitiveness. Increased competition in the raw materials and food markets leads to the need to constantly expand the range of products by correcting existing prescription compositions and developing new formulations.									
18	Promising technologies of deep processing of vegetable raw materials and the production of biofuels	The main groups of raw materials sources. Secondary resources of deep processing of plant raw materials and biofuel production. The use of industrial waste to produce energy. Production of liquid and gaseous biofuels. Methane and hydrogen fermentation. Technology of biogas production-methane and hydrogen. Technology of production of bioethanol and biodiesel. The technological scheme of bioenergy plants	8								+
19	Waste-free production technology of meat and dairy products	When studying the discipline, undergraduates study modern principles of waste-free and resource-saving processing technology in obtaining high-quality and safe products from secondary resources of dairy and meat products.	8								+

		The study of their ways of identifying the progress of production at the present stage and obtaining new theoretical and practical scientific solutions.									
20	Methods for analyzing products of deep processing of vegetable raw materials and biofuels	Theoretical issues of quality assessment of raw materials and finished products. Terms and definitions. Organization of laboratory control. Classification of compounds present in products. Classification of methods for studying the properties of raw materials and finished products. General principles of analysis and sample preparation. Organoleptic methods for assessing the quality of products. Instrumental methods for the study of rheological properties. Physico-chemical methods of studying the composition and properties of raw materials and products	5							+	
21	Methods for assessing the quality of processing products	The study of modern methods for assessing the quality of raw materials and processed products, the principles of analytical instruments, interstate regulations for food processing. Skills in assessing the quality of raw materials, semi-finished products and finished products, certification, requirements for quantitative and qualitative storage of products and ways to reduce natural loss and losses in storage areas, methods and modes of storage of livestock products.	5							+	

MAP of methodological support

7M07201 FOOD TECHNOLOGY (2y)

Total disciplines of the educational program ___21___

Of these, how many disciplines are taught at the graduating department__15__

Of these, how many in other departments __6___

MAP №1.
Information on the availability of a fund of educational and scientific literature
Kazakh agrotechnical university named after S.Seifullin
(as of 01/09/2022)
7M07201-"Technology of food products"

№ пп	Academic discipline by profession, specialty, type of activity, section of the education and training program	The number of students studying the discipline (estimated enrollment) Kaz/rus	Educational literature (title, year of publication, authors) textbooks, manuals	Educational and methodical, scientific literature (title, year of publication, authors)	Number of copies / person
1	2	3	4	5	6
1	Foreign language (professional)	38	Cadastre [Текст]: учеб.пособие / Рахимбекова Г.О. для студентов, магистрантов и докторантов, 2015		50
				Issues of teaching students of non-linguistic universities a professionally –oriented foreign language [Текст]: Рахимбекова Г.О.The bulletin the national academy of sciences of the republic of kazakhstan, May – june 2021	50
			6М072800 «Қайта өңдеу өндірістерінің технологиясы» мамандығының магистранттарына арналған оқу құралы. 96 б. 2016.		50
				Технологический русско-казахско-английский словарь по пищевой промышленности [Текст] / Ж. И. Сатаева, Б. С. Майканов, А. Б. Нуртаева, Г. Шайкамал // . - Астана :КазАТУ, 2017. – С -1шт	50
				Сельскохозяйственный словарь [Текст]: учеб. терминолог. слов. / Ж. И. Сатаева [и др.].; рец. Н. Омаркожаұлы, Т. Б. Сулейменов ; М-во образования и науки Республики Казахстан. - Астана: КазАТУ им. С.Сейфуллина, 2014. - 219 с.	50
2	History and philosophy of science	38	История и философия науки [Текст] : учебно-методический комплекс / сост. А. К. Абдина // . - Астана : КазАТУ, 2017.		1

			History and philosophy of science [Текст]: the tutorial for undergraduates all specialties / Ainur Abdina, Torgyn Sadykova, 2021		100
			Educational Textbook for Discipline Philosophy for polylingual groups: textbook./ Abdina A.K., Sadykova T.M., Ni D.V.Astana: S.Seifullin Kazakh Agro Technical University, 2015.		100
				Философияның таңдаулы 25 кітабы [Текст]: Хесс Р.Алматы: Ұлттық аударма бюросы, 2018	50
			История и философия науки [Текст] : учебно-метод. комплекс / сост. А. К. Абдина ; рец.: Г. Т. Телебаев, К. А. Медеуова. - Астана : КАТУ им.С.Сейфуллина, 2017. - 81 с.		15
				Ислам философиясы [Текст]: Оксфорд оқулығы Халид әл-Руайхеб, Сабина Шмидтке.– Алматы: «Ұлттық аударма бюросы» қоғамдық қоры, 2019	50
			История и философия науки [Текст] : учеб. пособие для магистрантов / Р. К. Турысжанова, М. К. Ташбулатова ; М-во образования и науки РК. - Алматы : Medet Group, 2014. - 292 с.		51
			История и философия науки[Текст]:Учебное пособие А.К.Абдина, А.Г.Гаппасова , 2018г.		50
3	Pedagogics of higher school	38	Педагогика высшей школы [Текст] : учеб. пособие / М. Есекешова, Ж. Сагалиева. - Астана : Фолиант, 2018. - 256 с.		101
			Основы ораторского искусства педагога [Текст] : учеб. пособие / О. А. Михалькова, Г. К. Бельгибаева ; М-во образования и науки РК, Караганд. гос. ун-т им. акад. Е.А. Букетова. - Караганда : Medet Group, 2014. - 152 с.		1
				Педагогиканың қысқаша тарихы (бастаулардан бүгінгі күндерге дейін) [Текст] : ғылыми-кен таралған әдебиет / А. И. Артемье ; Қазақ тіліне ауд. - Алматы : Бастау, 2013.	20
4	Management psychology	38	Психология управления [Текст] : учеб. / В. В. Козлов, Г. М. Мануйлов, Н. П. Фетискин. - 2-е изд., доп. - М. : Издательский центр "Академия", 2013. - 240 с. - (Высш. проф. образование). - Библиогр.: с. 227 - 238.		1
			Креативная психология [Текст] : учебник / Б. А.		52

			Оспанова, А. А. Жолдасбеков ; М-во образования и науки РК. - Алматы : Нурай Принт Сервис, 2012. - 420 с. - Библиогр.: с. 405 - 406.		
				Psychology [Текст]: textbook / S.A. Nurzhanova. - Astana : S. Seifullin Kazakh Agro Technical University, 2015. - 93 p.	1
			Принятие рациональных управленческих решений [Текст] : учеб. пособие / Н. Н. Вардиашвили ; М-во образования и науки Респ. Казахстан. - 2-е изд., перераб. и доп. - Алматы : Бастау, 2013. - 348 с.		20
5	Food safety: inspection, sanitation and HACCP	38	Основы технологии, гигиены и ветеринарно-санитарной экспертизы молока и молочных продуктов [Текст] : учеб. пособие / Ж. Ш. Адильбеков, Ю. А. Балджи ; рец.: Б. Е. Нургалиев, К. К. Мурзагулов. - Астана : КАТУ им.С.Сейфуллина, 2017		45
				Современные аспекты контроля качества и безопасности пищевых продуктов [Текст] : моногр. / Ю. А. Балджи, Ж. Ш. Адильбеков ; рец.: С. Т. Дюсембаев, А. Жумагельдиев. - Астана : КАТУ им. С.Сейфуллина, 2018.-384 с.	1
			Национальные и международные аспекты безопасности пищевой продукции в современных условиях [Текст] = Парал. тит. англ. : учеб. пособие. - [Б. м.] : Study book, 2017. - 268 с.		11
				Производство и безопасность сельскохозяйственной продукций: менеджмент качества и безопасности: Материалы 3 Международной научно-практической конференции (11-13 февраля 2015 года, Воронеж, Россия). – Ч. I./Коллектив авторов. – Воронеж: ФГБОУ ВПО Воронежский ГАУ, 2015- 354 с..	1
6	Modern equipment of food production	38	Қайта өңдеу өндірісінің технологиялық машиналары мен **жабдықтар**ы [Текст] : оқу құралы. I бөлім / М. М. Кәкімов [ж.б.]. ; пікір беруші: М. Е. Шаменов , С. Б. Ермекбаев; С.Сейфуллин атындағы Қазақ агротехникалық ун-ті. - Астана : С.Сейфуллин атындағы ҚазАТУ, 2018.		20
			Машина танудың теориялық негіздері: Оқу құралы.		2

			Қ.Ж. Тлеубердин, Ш.Б.Байтукенова. – Семей, 2015. - 160б.		
				Ауыл шаруашылық өнімдерді өндейтін технологиялық **жабдықтар** [Текст] : практикум / А. М. Әбдіров [ж.б.] ; Сын-пікірші М. Какимов. - Астана : С.Сейфуллин атындағы ҚазАТУ, 2018.	20
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21	Methods for assessing the quality of processing products	6	Өңдеу өндірістерінің өнімдерін техникалық және химиялық бақылау [Текст] : оқу құралы / С. Әлтайұлы, С. Ермекбаев ; пікір беруші: Ә. І. Ізтаев, Б. К. Тарабаев ; ҚР Ауыл шаруашылығы министрлігі, С.Сейфуллин ат. Қазақ агротехникалық ун-ті. - Астана : С.Сейфуллин атындағы ҚАТУ, 2017		4
			Методы исследованея свойств и состава молока и молочных продуктов. Жакупова Г.Н., Абдугамитова А.Е., Сагандык А.Т. Казахский агротехнический университет им. С.Сейфуллина.–Астана, 2019-147с.		25
				Современные аспекты контроля качества и безопасности пищевых продуктов [Текст] : моногр. / Ю. А. Балджи, Ж. Ш. Адильбеков. - СПб. : Лань, 2019	5
				Оценка качества молока и молочных продуктов [Текст] : учебно-метод. пособие / Г. В. Чебакова, И. А. Зачесова. - М. : ИНФРА-М, 2017	5

MAP № 2.
Information about the availability of a fund of educational and scientific literature on digital media
Kazakh Agrotechnical University named after S.Seifullin
(01/09/2022)
7M07201 - "Technology of food products"

№ п/п	Academic discipline by profession, direction of personnel training, by specialty qualifications being prepared	Name, year of creation	The authors	Information about the presence of a subscription to international, national databases
1	Foreign language (professional)	Oxford EAP. A Course in English for Academic Purposes.Upper-Intermediate / B2 OxfordUniversityPress, 2017	Edward de Chazal &SamMcCarter	https://ebin.pub/oxford-eap-a-course-in-english-for-academic-purposes-upper-intermediate-b2.html
		English for Academic Study: Extended Writing and Research Skills. Coursebook New Edition Oxford University Press, 2012	JoanMcCormack and John Slaight.	https://www.pdfdrive.com/eap-english-for-academic-study-extended-writing-and-research-skills-course-book-e187335072.html
		Для магистрантов по специальности «Технология пищевых продуктов» (Dairy products), 2020 г.	Рахимбекова Г.О.	http://portal.kazatu.kz/e-books/content/HRHPue4eFrJJxVSzXE4r/
2	History and philosophy of science	Учебное пособие "История и философия науки", 2018г.	А.К.Абдина, А.Г.Гаппасова	http://portal.kazatu.kz/e-books/content/iZfpcGtpsvoJ0ETgTPgx/
		Таблица және сызба-нұсқалармен көрсетілгенфилософия пәнінің мультимедиялық курсы, 2016ж.	А.К. Абдина, М.К.Какимжанов А.Б.Ахметбеков	http://repository.kazatu.kz/jspui/handle/123456789/89
		Educational Textbook for Discipline Philosophy for polylingual groups: textbook. Astana: S.Seifullin Kazakh Agro Technical University, 2015.	Abdina A.K., Sadykova T.M., Ni D.V.	http://repository.kazatu.kz/jspui/handle/123456789/167
		История и философия науки : Методические рекомендации для подготовки к семинарским занятиям для всех специальностей магистратуры. . - Алматы, 2011. - 27 с.	Джаныкулова С.К. Абдрахматова Г.А.	http://rmebrk.kz/book/1112615
3	Pedagogics of higher school	Педагогика высшей школы. Психология высшей школы : Методические указания к семинарским занятиям для магистрантов. . - Алматы: КазГАСА, 2012. - 49 с.	Акбаева, Л.К., Акбаева, А.Н.	http://rmebrk.kz/book/1105614
		Основы педагогики высшей школы: курс лекций / Иваново, 2016, - 128 стр.	Бутырина М.В.	https://elibrary.ru/item.asp?id=42892941
4	Management psychology	Психология управления : Учебное пособие. . - Алматы: Университет «Туран», 2020. - 352 с.	Хайруллин, Г.Т., Қасымжанова, А.А.	http://rmebrk.kz/book/1173705
		Психология управления : Учебно-методический комплекс дисциплины. Специальность 5В050500-Регионоведение. / Сост. - Костанай: КГУ им. А. Байтурсынова, 2013. - 161 с.	И.Р. Искакова.	http://rmebrk.kz/book/1024649

5	Food safety: inspection, sanitation and HACCP	Безопасность пищевых продуктов : Учебное пособие. . - Павлодар: Инновац. Euраз.ун-ті., 2012. - 268 с.	Темербаева, М.В.	http://rmebrk.kz/book/1032925
		Безопасность пищевых продуктов : Учебное пособие. / - Уральск: ЗКАТУ им. Жангир хана , 2017. - 209 с.	А.Б. Абуова, А.К. Гумарова, Ф.Х. Суханбердина.	http://rmebrk.kz/book/1172760
6	Modern equipment of food production	«Ауыл шаруашылық өнімдерді өңдейтін технологиялық жабдықтар» пәні бойынша практикум, 2018	Әбдіров, А.М. Мұстафин, Ж.Ж. Қайыржанова, Ж.С. Володя, Қ.	http://repository.kazatu.kz/jspui/handle/123456789/685
		Умная сельскохозяйственная техника, 2017	Шило, Н.И. Толочко, Н.К. Нукешев, С.О. Романюк, Н.Н. Есхожин, К.Д.	http://repository.kazatu.kz/jspui/handle/123456789/596
		Машины и оборудование для приготовления кормов, 2019	Искаков, Р.М.	http://repository.kazatu.kz/jspui/handle/123456789/464
7	Business planning in the storage and processing of agricultural products	Планирование на предприятии: учебное пособие, 2018	Скоморощенко А.А., Белкина Е.Н.	https://e.lanbook.com/reader/book/169209/#96
		Инновационный менеджмент: учеб. пособие Алматы : Экономика, 2014. - 272 с.	Аскаров Е. С.	http://ecatalog.kazatu.kz/jirbis2/components/com_irbis/pdf_view/?288880
		Бизнес-планирование на предприятии АПК: учеб.пособие / Казань, 2019. - 586 стр.	Мухаметгалиев Ф.Н., Авхадиев Ф.Н., Ситдикова Л.Ф.	https://elibrary.ru/item.asp?id=42480672
8	Modeling of food production processes	Компьютерное моделирование производственных процессов в пищевой промышленности: Учеб.пособие.- Издательство «Лань»,2016.-256 с	Лисин П.А.	https://e.lanbook.com/book/72585
		Математическое моделирование в технологиях продуктов питания животного происхождения: Учеб.пособие.- Издательство «Лань»,2019.-124 с.	Бобренева И.В., Николаева С.В	https://e.lanbook.com/book/112670
		Безопасность продовольственного сырья и пищевых продуктов: Учеб.пособие.- Издательство «Лань»,2019.-56 с.	Бобренева И.В.	https://e.lanbook.com/book/113372
		Общая технология переработки сырья животного происхождения (мясо,молоко):Учебное пособие / Под общ.ред. О.А.Ковалевой.-СПб.: Издательство «Лань»,2021.- 444 с.	Ковалева О. А., Здрабова Е. М.а, Киреева О. С., Яркина М. В., Поповичева Н.Н.	https://e.lanbook.com/reader/book/160134/#1
9	Biotechnological bases of food production	Биотехнологические основы пищевых производств. Лабораторный практикум : учебное пособие / — Иваново : ИГХТУ, 2017. — 84 с.	Деревеньков, И. А.	https://e.lanbook.com/book/171828

		Основы биотехнологической переработки сырья растительного, животного, биологического происхождения и рыбы: учебное пособие для студентов вузов : в 2 ч. / Кемерово, 2012. Том Биотехнологические способы переработки сырья животного происхождения. - 103 стр.	Кригер О.В.	https://elibrary.ru/item.asp?id=19620292
		Биотехнологические основы хлебопекарного производства: учеб.пособие / Воронеж, 2019. – 143 стр.	Жаркова И.М., Малютина Т.Н., Литвяк В.В.	https://elibrary.ru/item.asp?id=42408012
		Введение в биотехнологию: Учеб. пособие. – СПб.: НИУ ИТМО; ИХиБТ, 2013. 95с.	Шлейкин А.Г., Жилинская Н.Т.	http://window.edu.ru/resource/296/80296/files/itmo1406.pdf
		Процессы и аппараты пищевых, биотехнологических и смежных производств в практических задачах: учеб.пособие / Тула, 2017. - 204 стр.	Морозов В.Б.	https://elibrary.ru/item.asp?id=29854136
10	Scientific basis of food production	Өсімдік шаруашылығы өнімдерін өндеу негіздері, 2016	Әлтайұлы, С.	http://repository.kazatu.kz/jspui/handle/123456789/419
		Научно-теоретические основы пищевых производств: учебное пособие, 2018 год	Леонидова Б.Л.	http://portal.kazatu.kz/e-books/content/rkEEYhEuSsi72NacKOlZ/
		Технология приготовления сложных хлебобулочных, мучных кондитерских изделий, 2016.- 183 стр.	Шапкарина А.И, Минаева С.В., ЯнпольскаяН.А.	https://e.lanbook.com/book/92217
		Безопасность продовольственного сырья и продуктов питания. Учебное пособие (книга), 2011	Роева Н.Н.	https://www.iprbookshop.ru/40852.html
		Общая технология бродильных производств – уч.пособие, 2013	Баланов П.Е.	https://www.iprbookshop.ru/68206.html
11	Microbiological methods of food quality control	Микробиологические методы контроля качества пищевых продуктов / тексты лекций / Минск, 2012. – 205 стр.	Игнатенко А.В.	https://www.elibrary.ru/item.asp?id=36657354
		«Микробиологическая порча сельскохозяйственной продукции : учебное пособие / — Барнаул : АГАУ, 2022. — 86 с.	Бондырева Л. А, Гетманец В. Н.	https://e.lanbook.com/book/262007
		Микробиология однородных групп товаров, санитария и гигиена: учебное пособие. — Тверь : Тверская ГСХА, 2019. — 181 с.	Володькина Г. М.	https://e.lanbook.com/book/134250
12	Food safety control and quality standards	Управление качеством продукции. Пищевая промышленность. Для аспирантов : учебник — Санкт-Петербург : Лань, 2021. — 236 с.	Дунченко, Н. И.	https://e.lanbook.com/book/169295
		Безопасность продовольственного сырья и продуктов питания : учебное пособие /. — Персиановский : Донской ГАУ, 2019. — 177 с.	Комкова О. Г., Сердюкова Я. П.	https://e.lanbook.com/book/133412
		Разработка системы контроля качества и обеспечение экологической безопасности продовольственного сырья и продуктов питания / В сборнике: Современные научные исследования: методология, теория, практика. материалы IX	Ахмадиев Г.М.	https://www.elibrary.ru/item.asp?id=25535649

		Международной научно-практической конференции. 2015. С. 5-28.		
13	Nutritionology	Нутрициология : учебное пособие /— Омск : Омский ГАУ, 2019. — 50 с. — ISBN 978-5-89764-767-5.	Якушкин И. В.	https://e.lanbook.com/book/197812
		Технологическая нутрициология биоэлементов / Москва, 2020. – уч.пособие, - 182 стр.	Полянская И.С., Тераевич А.С.	https://www.elibrary.ru/item.asp?id=44518274
		Физиология питания. Нутрициология / Методические указания для выполнения лабораторных и контрольных работ студентами, обучающимися по направлению подготовки бакалавриата "Технология продукции и организация общественного питания" / Ижевск, 2022- 116 стр.	Главатских Н.Г.	https://www.elibrary.ru/item.asp?id=48706508
14	Methods for analyzing products of deep processing of vegetable raw materials and biofuels	Физико-химические методы исследования свойств сырья и пищевых продуктов: уч.пособие, 2017	Жакупова, Г.Н. Омаралиева, А.М.	http://repository.kazatu.kz/jspui/handle/123456789/679
		Методы выделения и анализа продуктов биосинтеза: Учебное пособие, 2019	Миронов П. В., Алаудинова Е.В.	https://e.lanbook.com/book/147482
		Физико-химические методы анализа производства алкогольсодержащей продукции: учебное пособие, 2013	Гаврилова Е.Л.	https://e.lanbook.com/book/73469
		Методы исследования сырья и продуктов растительного происхождения (теория и практика): Учебное пособие / Воронеж, 2014.	Романюк Т.И., Чусова А.Е., Новикова И.В.	https://elibrary.ru/item.asp?id=27916014
15	Technical systems for the production of products of deep processing of vegetable raw materials and biofuels	Глубокая переработка биомассы и отходов сельскохозяйственного производства: науч. аналит. обзор ФГНУ «Росинформагротех», 2017, 252 стр.	Тихонравов В.С, Федоренко В.Ф., Буклагин Д.С., Мишуров Н.П.	https://e.lanbook.com/book/104323
		Перспективные технологии переработки вторичных ресурсов производства растениеводческой продукции [Текст] : учеб. пособие /. - Астана : КазАТУ им.С.Сейфуллина, 2015. - 91 с.	Бекбаев К. С., Какимов М. М., Болкенов Б. Т.	http://ecatalog.kazatu.kz/jirbis2/components/com_irbis/pdf_view/?245270
		Инновационные технологии глубокой переработки зернового сырья в новые продукты [Текст] : моногр.. ; М-во образования и науки Респ. Казахстан. - Алматы : LEM, 2015. - 148 с.	Изтаев А. И. и др.	http://ecatalog.kazatu.kz/jirbis2/components/com_irbis/pdf_view/?219605
		Майлы дақылдарды өңдеу және сақтау технологиясы, Астана : КазАТУ им.С.Сейфуллина, 2017. - 122 с.	Ермекбаев, С.Б. Какимов, М.М.	http://repository.kazatu.kz/jspui/handle/123456789/435
16	Promising technologies of deep processing of vegetable raw materials and the production of biofuels	Инновационные технологии глубокой переработки зернового сырья в новые продукты [Текст] : моногр.. ; М-во образования и науки Респ. Казахстан. - Алматы : LEM, 2015. - 148 с.	Изтаев А. И. и др.	http://ecatalog.kazatu.kz/jirbis2/components/com_irbis/pdf_view/?219605
		Технология биотоплив. Учеб. пособие. Архангельск, 2012-60 с.	Гельфанд Е.Д	https://www.iprbookshop.ru/366.html
		Перспективные технологии переработки вторичных ресурсов производства растениеводческой продукции [Текст] : учеб.	Бекбаев К. С., Какимов М. М.,	http://ecatalog.kazatu.kz/jirbis2/components/com_irbis/pdf_view/?245270

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		Основы биотехнологической переработки сырья растительного, животного, биологического происхождения и рыбы: учебное пособие для студентов вузов : в 2 ч. / Кемерово, 2012. Том Биотехнологические способы переработки сырья животного происхождения. - 103 стр.	Кригер О.В.	https://elibrary.ru/item.asp?id=19620292
17	Modern technologies for the production of meat and dairy products	Ферменты: структура, свойства и применение: учебнометодическое пособие для высшего профессионального образования /– Орел: ФГБОУ ВПО «Госуниверситет - УНПК», 2013. – 175 с.	Кузнецова Е.А., Черепнина Л.В..	http://library.oreluniver.ru/polnotekst/Uhebn_izd/2013/Fermenti_Struktura_svoistva.pdf
		Прикладная энзимология. – СПб: Университет ИТМО, 2019. – 160 с	Шлейкин А.Г., Скворцова Н.Н., Бландов Н.Н.	https://books.ifmo.ru/file/pdf/2440.pdf
		Технология молока и молочных продуктов: Учебное пособие, 2018. - 232 стр.	Крючкова В.В.	https://reader.lanbook.com/book/134396#2
18	Innovative storage technology of processing plant products	Инновационные технологии глубокой переработки зернового сырья в новые продукты [Текст] : моногр.. ; М-во образования и науки Респ. Казахстан. - Алматы : LEM, 2015. - 148 с.	Изтаев А. И. и др.	http://ecatalog.kazatu.kz/jirbis2/components/com_irbis/pdf_view/?219605
		Қатты денені ұсақтау, учеб. пособие /. - Астана : КазАТУ им.С.Сейфуллина, 2018. -191 с	Шкалұлы, Қ. Ермекбаев, С.Б. Какимов, М.М.	http://repository.kazatu.kz/jspui/handle/123456789/598
		Совершенствование переработки и хранения продукции растениеводства, 2017	Леонидова, Б.Л. Диханова, М.Б.	http://repository.kazatu.kz/jspui/handle/123456789/578
		Инновационные технологии обработки и хранения сельскохозяйственного сырья и пищевых продуктов Сборник научных трудов ученых и специалистов к 90-летию ВНИХИ / Москва, 2020.	Горбатова И.А. Дьякова М.В.	https://elibrary.ru/item.asp?id=42820560
		Функциональные продукты питания и их разработка: монография, 368 стр., 2019 г.	Бобренева И.В	https://e.lanbook.com/reader/book/115482/#333
19	Principles for developing formulations of new types of food products	Функциональные продукты питания и их разработка: монография, Издательство "Лань", 2019	Бобренева И.В.	https://e.lanbook.com/reader/book/115482/#180
		Пищевой инжиниринг продуктов общественного питания: Учебное пособие, 2017	Макарова Н.В.	https://e.lanbook.com/reader/book/112670/#62
		Технология и организация производства продуктов переработки зерна, хлебобулочных и макаронных изделий : учебно-методическое пособие / Р. А. Фёдорова, О. В. Головинская. — Санкт-Петербург : Университет ИТМО, Институт холода и биотехнологий, 2015. — 79 с.	Фёдорова, Р. А.	https://www.iprbookshop.ru/68207.html
		Методические указания к лабораторно-практическим занятиям по дисциплине «Технология производства растительных масел»,	Сатаева Ж.И.	http://portal.kazatu.kz/e-books/content/O4xIFdoy5VHA6oeNjmkG/

		2018 год		
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