NJSC SHAKARIM UNIVERSITY OF SEMEY

EDUCATIONAL PROGRAM

6B07 - Engineering, Manufacturing and Civil engineering
(Code and classifcation of the feld of education)

6B072 - Manufacturing and processing
(Code and classifcation of the direction of training)

0720
(Code in the International Standard Classifcation of Education)

B068 - Food production
(Code and classifcation of the educational program group)

6B07202 - Technology of Food Products
(Code and name of the educational program)

Bachelor
(Level of preparation)

Semey

Educational program

6B07 - Engineering, Manufacturing and Civil engineering
(Code and classification of the field of education)

6B072 - Manufacturing and processing
(Code and classification of the direction of training)

0720
(Code in the International Standard Classification of Education)

B068 - Food production
(Code and classification of the educational program group)

6B07202 - Technology of Food Products
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bachelor
(Level of preparation)

Semey 2023

PREFACE

Developed

The educational program 6B07202 - Technology of Food Products in the direction of preparation 6B072 - Manufacturing and processing 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	Signature
Head of the Academic Committee	Nurymkhan Gulnur	Dean of the Faculty of Engineering and Technology, Candidate of Technical Sciences	
Educational program manager	Smolnikova Farida	Associate Professor of the Department of "Food Production Technologies and Biotechnology", Ph.D.	
Member of the AC	Kakimova Zhainagul	Head of the Department of "Food Production Technologies and Biotechnology", Candidate of Technical Sciences	
Member of the AC	Kambarova Arai	Senior lecturer of the Department of "Food Production Technologies and Biotechnology", PhD	
Member of the AC	Kalikanov Ali	Director of the peasant farm of "Kalikanuly", dairy shop "Aisha"	
Member of the AC	Musina Anar	Director of "Semnan" LLP	
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Member of the AC	Amangeldieva Sabina	student of group PP-101, 6B07202 "Technology of food products" EP	

Reviewing

Full name of the reviewer	Position, place of work	Signature
Saylaubayev Askar	Director of East-milk Corporation LLP	

Reviewed

at the meeting of the Quality Assurance Commission of the Faculty of Engineering and Technology
Recommended for approval by the Academic Council of the University
Protocol № 4/6 10th of April 2023
Chairman of the Commission on Quality Assurance Abdilova G.B.

Approved at the meeting of the Academic Council of the University Protocol No. 8 "25" April 2023.

Approved

at the meeting of the Academic Council of the University
Protocol № 1 "01" of September 2023
Chairman of the Academic Council of the University Orynbekov D.R.

Content

1.Introduction

1.1.General data

The department "of Food Production Technology and Biotechnology" of the Faculty of Engineering and Technology provides training for the educational program "6B07202 Technology of food products."

This educational program was developed taking into account the needs of the labor market in the food industry. The modular organization of the program is aimed at the gradual acquisition by students of the competencies necessary for the quality performance of their professional activities.

The peculiarity of the educational program lies in the highly qualified teaching staff - about 70% of the teaching staff have PhD, candidate and doctor of sciences degrees. There is the material and technical equipment of the educational program; international credit mobility, external and internal mobility were introduced; a close relationship has been established with employers and graduates of the educational program, there is an opportunity to continue postgraduate education.

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 for the preparation of bachelors is the mastering by students of at least 205 credits of theoretical training, as well as at least 27 credits of practical training,8 credits of final certification.

A total of 240 credits.

1.3.Typical study duration: 4 жыл

2.PASSPORT OF THE EDUCATIONAL PROGRAM

2.1.EP purpose	Formation of a competitive competent specialist of the food industry, the most relevant to the requirements of modern industrial production
2.2.Map of the training profile within the educational program	
Code and classification of the field of education	6B07 - Engineering, Manufacturing and Civil engineering
Code and classification of the direction of training	6B072 - Manufacturing and processing
Code in the International Standard Classification of Education	0720
Code and classification of the educational program group	B068 - Food production
Code and name of the educational program	6B07202 - Technology of Food Products
2.3.Qualification characteristics of the graduate	
Degree awarded / qualification	Bachelor of engineering and technology in the educational program
Name of the profession / list of positions of a specialist	- Technologist - Technician-technologist of the production laboratory - Technologist calculator - Shop foreman - Technician-laboratory assistant of the production laboratory - Specialist in research laboratories - Laboratory assistant in educational institutions - Specialist of design organizations - Methodist in education departments
OQF qualification level (industry qualification framework)	6
Area of professional activity	The area of professional activity of the bachelor is the food industry, ensuring the development of technological processes and production of food products, design and research organizations, as well as companies of various forms of ownership.
Object of professional activity	- Meat factories - Sausage shops - Fish canning factories - Dumplings shops - Dairy factories - Confectionery shops - Catering establishments (canteens, cafes, restaurants) - Laboratories for food production and veterinary and sanitary control; - Scientific research institutes and laboratories - Design organizations - Educational establishments
Types of professional activity	- organization of technological processes; improvement of technological operations and participation in the development of resource-saving technological processes; analysis of technical equipment and production activities of enterprises, taking into account the requirements of ecology, labor protection, fire explosion safety and industrial sanitation;

	- organization of work of labor collectives, management decisions; analysis of technical and economic indicators of enterprises and marketing activities; performance of work on standardization and certification of food products; - development and design of technological schemes for food industry enterprises and public catering enterprises; reconstruction of existing food industry and public catering enterprises; - study and analysis of scientific and technical information, domestic and foreign experience in the food industry; - work in the field of education.
Graduate Model	-To demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society; - To use the basics of natural science knowledge and methodology to identify production problems and solve professional problems; - To show general engineering training in mastering the basics of technical and professional skills; - To apply scientific knowledge gained during general engineering training to improve technological processes; -To apply knowledge of general methods of exposure raw materials in professional activities; - To ensure the production of high-quality food products in accordance with the requirements of regulatory documents and modern nutrition science; - To organize the technological process of production at the enterprises of the food industry; - To develop production technology of new food products, taking into account the development of scientific and technical progress; - To manage the activities of food industry enterprises; -To develop design standards for the organization of the enterprise.

3.Modules and content of the educational program

Module 1. Fundamentals of social and humanitarian knowledge

Foreign language

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29276 (3012548)
Course	1
Term	1
Credits count	5
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The content of the discipline «Foreign language» assumes the formation of students`linguo- cultural, socio- cultural, cognitive and communicative competencies at B2 level. The discipline is aimed at deep and extended study of productive and receptive language material. As a result, the student must be able to understand all types of speech activity in accordance with the requirements of B2 level and master the subject content of the discipline and speech.

Purpose of studying of the discipline

Formation of linguo- culturological, socio- cultural, cognitive and communicative competence of students in the process of foreign language education at the B2 level, pan-European competence. Depending on the level of training, the student at the time of completing the course reaches the level B2 of the pan-European competence, if the language level of the student at the start is higher than the level B1 of the pan-European competence.

Learning Outcomes

ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites

School course

Postrequisites

Foreign language

Kazakh language

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29281 (3012552)
Course	1
Term	1
Credits count	5
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline is aimed at deepening the acquired knowledge of students in the framework of the school curriculum, as well as the use of language and speech means based on a full understanding of vocabulary and grammatical system of knowledge; the formation of socio-humanitarian worldview of students within the framework of the national idea of spiritual revival; free expression of mobile thought as a means of speech communication and in the process of communication; awareness of the national culture of the people, the ability to distinguish features of national cognition.

Purpose of studying of the discipline

Forms through phraseological units the recognition of national culture, its meaning as a linguistic unit related to spiritual culture; skills of identifying facts of national and cultural significance in the formation of Kazakh phraseology.

Learning Outcomes

ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites

School course

Postrequisites

Kazakh language

Bases of economics, law and ecological knowledge

Discipline cycle	General educational disciplines

Discipline component	University component
SubjectID	29282 (3012613)
Course	1
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The integrated discipline includes the main issues and principles in the field of fundamentals of law and anti- corruption culture, economics, entrepreneurship and leadership, ecology and life safety. Features of the use of regulatory legal acts, the ability to use the business, ethical, social, economic, entrepreneurial and environmental standards of society. Specifics of environmental-legal, economic, entrepreneurial relations, leadership qualities and principles of combating corruption.

Purpose of studying of the discipline

It consists in studying the basic patterns of the functioning of living organisms, the biosphere as a whole and the mechanisms of their sustainable development under the conditions of anthropogenic impact and emergency situations; in understanding the concept of corruption, the legitimacy of the fight against it, the content of the state penal policy; in the formation of students` basic fundamental stable knowledge on the basics of economic theory, in instilling the skills and abilities of economic thinking; in introducing students to the theory and practice of entrepreneurship, to the basics of creating their own business; in the formation of theoretical knowledge and practical skills for the development and improvement of leadership qualities.

Learning Outcomes

ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites

School course

Postrequisites

Basic and profile disciplines of the EP

Russian language

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29280 (3012551)
Course	1
Term	1
Credits count	5
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline is intended for the development of the language personality of the student, who is able to carry out cognitive and communicative activities in Russian in the areas of interpersonal, social, professional, intercultural communication; for teaching students practical mastery of the Russian language in various areas of communication and various situations, mastering the specifics of functional semantic types and genres of functional styles of speech, enriching the vocabulary with special vocabulary, forming and improving the skills of monologue and dialogic speech.

Purpose of studying of the discipline

The purpose of the program is to form the socio-humanitarian worldview of students in the context of the national idea of spiritual modernization, involving the development on the basis of national consciousness and cultural code of the qualities of internationalism, tolerant attitude to world cultures and languages as translators of world-class knowledge, advanced modern technologies, the use and transfer of which can ensure the modernization of the country and personal career growth of future specialists.

Learning Outcomes

ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites

School course

Postrequisites

Russian language

Physical Culture

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29275 (3012544)

Course	1
Term	1
Credits count	2
Practical and seminar classes	60hours
Total	60hours
Knowledge control form	Differentiated attestation

Short description of discipline
It provides for the joint cooperation of a teacher and a student in the process of physical education throughout the training in the context of the requirements for the level of mastering the discipline, preparing students for participation in mass sports competitions; forms motivational and value attitudes towards physical culture and the need for systematic physical exercises and sports; gives basic knowledge about the use of physical culture and sports in the development of vital physical qualities.

Purpose of studying of the discipline
The purpose of the program is the formation of social and personal competencies of students and the ability to purposefully use the means and methods of physical culture, ensuring the preservation, strengthening of health to prepare for professional activities; to the persistent transfer of physical exertion, neuropsychic stress and adverse factors in future work.

Learning Outcomes
ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites
School course

Postrequisites
Physical Culture

Kazakh language

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29287 (3012553)
Course	1
Term	2
Credits count	5
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The discipline is aimed at expanding language literacy, free communication with the environment and mental and ideological skills of the student, understanding the role of language in the process of mastering world- class knowledge through the formation of a future specialist`s worldview based on national consciousness and cultural code, improving the knowledge of the state language by future specialists, increasing the scope of use of the Kazakh language by specialists.

Purpose of studying of the discipline
Ensuring high- quality mastery of the Kazakh language as a means of social, intercultural, professional communication through the formation of communicative competencies at all levels of language use.

Learning Outcomes
ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites
Kazakh language

Postrequisites
Basic and profile disciplines of the EP

Foreign language

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29285 (3012549)
Course	1
Term	2
Credits count	5
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The content of the discipline «Foreign language» assumes the formation of students`linguo- cultural, socio- cultural, cognitive and

communicative competencies at B2 level. The discipline is aimed at deep and extended study of productive and receptive language material. As a result, the student must be able to understand all types of speech activity in accordance with the requirements of B2 level and master the subject content of the discipline and speech.

Purpose of studying of the discipline

Formation of linguo- culturological, socio- cultural, cognitive and communicative competence of students in the process of foreign language education at the B2 level, pan-European competence. Depending on the level of training, the student at the time of completing the course reaches the level B2 of the pan-European competence, if the language level of the student at the start is higher than the level B1 of the pan-European competence.

Learning Outcomes

ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites

Foreign language

Postrequisites

Basic and profile disciplines of the EP

History of Kazakhstan

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29288 (3012611)
Course	1
Term	2
Credits count	5
Lections	30hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Qualification examination

Short description of discipline

The main stages of the history of Kazakhstan are studied with: nomadic statehood, Turkic civilization, the era of colonialism, the Soviet period, independence. The driving forces, trends, patterns of historical development are analyzed; problems: ethnogenesis of the Kazakh people, the formation of statehood, national liberation movements, demographic development. The skills of analyzing historical events and facts, working with historical literature are being formed.

Purpose of studying of the discipline

The purpose of the discipline is to provide objective knowledge about the main stages of the development of the history of Kazakhstan from ancient times to the present.

Learning Outcomes

ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites

School course

Postrequisites

Philosophy

The module of socio-political knowledge (sociology, political science, cultural studies, psychology)

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29290 (3012614)
Course	1
Term	2
Credits count	8
Lections	30hours
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	55hours
Independent work of the student	110hours
Total	240hours
Knowledge control form	Examination

Short description of discipline

The module of socio-political knowledge involves the study of four scientific disciplines – sociology, political science, cultural studies, psychology, each of which has its own subject, terminology and research methods. Interactions between these scientific disciplines are carried out on the basis of the principles of information complementarity; integrativity; methodological integrity of research approaches of these disciplines; generality of the methodology of learning, result-oriented; unified system representation of the typology of learning

outcomes as formed abilities.

Purpose of studying of the discipline

Formation of social and humanitarian worldview of students in the context of solving the problems of modernization of public consciousness, defined by the state program "Looking into the Future: Modernization of Public Consciousness".

Learning Outcomes

ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites

School course

Postrequisites

Philosophy

Russian language

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29286 (3012550)
Course	1
Term	2
Credits count	5
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline is intended for the development of the language personality of the student, who is able to carry out cognitive and communicative activities in Russian in the areas of interpersonal, social, professional, intercultural communication; to teach the scientific style of speech as a language of specialty, the creation of secondary texts, the formation of skills for the production of oral and written speech in accordance with the communicative goal and the professional sphere of communication, instilling the skills of speech etiquette, business rhetoric.

Purpose of studying of the discipline

The purpose of the program is to form the socio-humanitarian worldview of students in the context of the national idea of spiritual modernization, involving the development on the basis of national consciousness and cultural code of the qualities of internationalism, tolerant attitude to world cultures and languages as translators of world-class knowledge, advanced modern technologies, the use and transfer of which can ensure the modernization of the country and personal career growth of future specialists.

Learning Outcomes

ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites

Russian language

Postrequisites

Basic and profile disciplines of the EP

Physical Culture

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29284 (3012545)
Course	1
Term	2
Credits count	2
Practical and seminar classes	60hours
Total	60hours
Knowledge control form	Differentiated attestation

Short description of discipline

It provides for the joint cooperation of a teacher and a student in the process of physical education throughout the training in the context of the requirements for the level of mastering the discipline, the ability to exercise control and self-control in the process of classes, gaining knowledge on health promotion, hardening and increasing the body`s resistance to the effects of adverse factors of labor activity, mastering methods of selection of physical exercises and sports.

Purpose of studying of the discipline

The purpose of the program is the formation of social and personal competencies of students and the ability to purposefully use the means and methods of physical culture, ensuring the preservation, strengthening of health to prepare for professional activities; to the persistent transfer of physical exertion, neuropsychic stress and adverse factors in future work.

Learning Outcomes

ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites

Physical Culture

Postrequisites
Physical Culture

Physical Culture

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29293 (3012547)
Course	2
Term	1
Credits count	2
Practical and seminar classes	60hours
Total	60hours
Knowledge control form	Differentiated attestation

Short description of discipline
Provides for the joint cooperation of the teacher and the student in the process of physical education throughout the training in the context of the requirements for the level of mastering the discipline; increasing the level of physical fitness and developing physical qualities; mastering the technique of sports; education of discipline, collectivism, comradely mutual assistance; education of mental stability, development and improvement of basic motor qualities - endurance, strength, speed, dexterity, flexibility.

Purpose of studying of the discipline
The purpose of the program is the formation of social and personal competencies of students and the ability to purposefully use the means and methods of physical culture, ensuring the preservation, strengthening of health to prepare for professional activities; to the persistent transfer of physical exertion, neuropsychic stress and adverse factors in future work.

Learning Outcomes
ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites
Physical Culture

Postrequisites
Physical Culture

World of Abai

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29302 (3012600)
Course	2
Term	1
Credits count	3
Lections	15hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	20hours
Independent work of the student	40hours
Total	90hours
Knowledge control form	Examination

Short description of discipline
The discipline is aimed at studying historical facts, the philosophical and artistic foundations of the works of Abay Kunanbaev, Shakarim Kudaiberdiev, which form worldview and aesthetic values, the student`s ability to express his opinion, practical skills and perception of such human qualities as morality, honesty, artistic character. The genius of the writers of Kazakh literature and the role of M. Auezov in the study and popularization of Abai`s heritage, the significance of his works for history, literature and science are determined.

Purpose of studying of the discipline
Formation of the meaning of philosophical and ideological being, understanding of the problems raised in the works of Abai Kunanbayuly, Shakarim Kudaiberdiuly, Mukhtar Auezov and application of the acquired knowledge in the practice of everyday life.

Learning Outcomes
ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites
The module of socio-political knowledge (sociology, political science, cultural studies, psychology)

Postrequisites
Basic and profile disciplines of the EP

Information and communication technology

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29309 (3012615)
Course	2
Term	2
Credits count	5

Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The discipline is aimed at mastering the conceptual foundations of the architecture of computer systems, operating systems and networks by students; formation of the ability to critically understand the role and signifcance of modern information and communication technologies in the era of digital globalization, new "digital" thinking, knowledge about the concepts of developing network and web applications, skills in using modern information and communication technologies in various felds of professional activity, scientifc and practical work, for self-educational and other purposes.

Purpose of studying of the discipline
Formation of the ability to critically evaluate and analyze processes, methods of searching, storing and processing information, methods of collecting and transmitting information through digital technologies

Learning Outcomes
ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites
School course Foreign language

Postrequisites
Basic and profile disciplines of the EP

Physical Culture

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29308 (3012546)
Course	2
Term	2
Credits count	2
Practical and seminar classes	60hours
Total	60hours
Knowledge control form	Differentiated attestation

Short description of discipline
Provides for the joint cooperation of the teacher and the student in the process of physical education throughout the training in the context of the requirements for the level of mastering the discipline; acquisition of versatile abilities and skills for the development of physical abilities, socio-cultural experience and socio-cultural values of physical culture and sports; development of communication skills, thinking, self-development, the formation of experience in the implementation of sports and recreational and training programs.

Purpose of studying of the discipline
The purpose of the program is the formation of social and personal competencies of students and the ability to purposefully use the means and methods of physical culture, ensuring the preservation, strengthening of health to prepare for professional activities; to the persistent transfer of physical exertion, neuropsychic stress and adverse factors in future work.

Learning Outcomes
ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites
Physical Culture

Postrequisites
Basic and profile disciplines of the EP

Philosophy

Discipline cycle	General educational disciplines
Discipline component	Compulsory component
SubjectID	29347 (3012556)
Course	3
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline is aimed at developing students` openness of consciousness, understanding their own national code and self-consciousness, spiritual modernization, competitiveness, realism and pragmatism, independent critical thinking, the cult of knowledge and education, a holistic view of philosophy as a special form of understanding the world, mastering key worldview concepts, as well as the development and strengthening of the values of tolerance, intercultural dialogue and a culture of peace.

Purpose of studying of the discipline

Formation in students of a holistic view of philosophy as a special form of knowledge of the world, its main sections, problems and methods of studying them in the context of future professional activities.

Learning Outcomes

ON1 Demonstrate socio-cultural, economic, legal, environmental knowledge, communication skills, apply information technologies taking into account current trends in the development of society.

Prerequisites

History of Kazakhstan The module of socio-political knowledge (sociology, political science, cultural studies, psychology)

Postrequisites

Basic and profile disciplines of the EP

Module 2.Natural science knowledge

Mathematics

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29283 (3012558)
Course	1
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The purpose of this course is to provide students with fundamental training in mathematics. The course is aimed at forming a sufficiently high culture of mathematical thinking among students and developing the ability to creatively approach problem solving. In addition to studying the fundamental foundations of higher mathematics (elements of analytical geometry, linear algebra, mathematical analysis, differential equations), the course assumes consideration of various applications of mathematics to solving production problems from the field of professional specialization.

Purpose of studying of the discipline

creation of the basis for the development of logical thinking and mathematical culture. Formation of basic knowledge and acquisition of basic skills of using mathematical apparatus for solving theoretical and applied problems, as well as the necessary level of mathematical training for mastering other applied disciplines studied within a specific profile; skills of working with special mathematical literature

Learning Outcomes

ON3 To use the basics of natural science knowledge and me-thodology to identify production problems and solve pro-fessional problem

Prerequisites

School course

Postrequisites

Basic and profile disciplines of the EP

Physics

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29278 (3012608)
Course	1
Term	1
Credits count	3
Lections	15hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	20hours
Independent work of the student	40hours
Total	90hours
Knowledge control form	Examination

Short description of discipline

In process of studying this discipline, students get acquainted with the basic laws, concepts of all sections of physics. Physics is an area of experimental science, performing laboratory work and tasks, students are convinced of unity of the theory and practice of experiments. Students have the opportunity to gain knowledge on the subject in any area of their specialty.

Purpose of studying of the discipline

Formation of ideas about the role of experimental and theoretical methods of cognition of the surrounding world, development of skills

for independent solving of physical problems, motivation to study modern scientific literature.

Learning Outcomes

ON3 To use the basics of natural science knowledge and me-thodology to identify production problems and solve pro-fessional problem

Prerequisites

School course

Postrequisites

Basic and profile disciplines of the EP

Chemistry

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29301 (3012599)
Course	2
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline is aimed at studying the basic concepts and laws of chemistry, classical and quantum- mechanical ideas about the structure of the atom and chemical bonds; consideration of periodic laws and structure of the periodic system of chemical elements, types of chemical bonds; mastering the laws of thermodynamics, chemical kinetics and chemical equilibrium, corrosion of metals, ways of expressing the concentration of solutions; promote the ability to apply the knowledge gained in practice, to solve problems in professional training.

Purpose of studying of the discipline

Familiarization of students with modern ideas about the structure of substances, with the basic theories of chemical processes, with the properties of catalytic and complex systems, as well as with the properties of elements. Knowledge of the basic theory of chemical processes necessary in the study and deeper understanding of all subsequent special disciplines, also give students scientific and practical training in the basics of analytical chemistry.

Learning Outcomes

ON3 To use the basics of natural science knowledge and me-thodology to identify production problems and solve pro-fessional problem

Prerequisites

School course

Postrequisites

Biochemistry

Module 3. characteristics of raw materials and technological processes

Introduction to the technology of food productions

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29277 (3012561)
Course	1
Term	1
Credits count	3
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	0hours
Independent work of a student under the guidance of a teacher	20hours
Independent work of the student	40hours
Total	90hours
Knowledge control form	Examination

Short description of discipline

The course provides familiarization with the branches of the food industry, the classification of food enterprises, modern concepts of the organization of production in the food industry. The classification of raw materials for food production, product range, formulations, output is considered. The study of technological schemes and their graphic construction, types of technological processes at food industry enterprises, technological operations, processes, organization of control of technological processes and safety at work.

Purpose of studying of the discipline

to give students a primary idea of the technological process, the organization of production at the enterprise, the main physiological processes and their relationship with food quality.

Learning Outcomes

ON4 To apply scientific knowledge gained during general engineering training to improve technological processes

Prerequisites
School course
Postrequisites
General technology of processing industries General technology of food production

Educational practice

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29291 (3012543)
Course	1
Term	2
Credits count	2
Study practics	60hours
Total	60hours
Knowledge control form	Total mark on practice

Short description of discipline
Students receive primary ideas about the technology, organization and mechanism of work at a food enterprise. During the internship, students get acquainted with the work of the main divisions of food enterprises, the raw material zone, the general organization of the technological process at the enterprise. Raw materials for food production. The main technological processes and operations of food production. Production recipes of food products. Storage of finished products. The quality of food products.

Purpose of studying of the discipline
Familiarization with the structure of the enterprise, study of the main processes of technological production
Learning Outcomes
ON3 To show general engineering training in mastering the basics of technical and professional skills
ON4 To apply scientific knowledge gained during general engineering training to improve technological processes
Prerequisites
Introduction to the technology of food productions Technological bases of physiology, hygiene and sanitation of nutrition
Postrequisites
General technology of processing industries General technology of food production

Engineering Graphics

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29295 (3012559)
Course	2
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
In this discipline, the rules of execution and design of graphic works are studied; the problems of geometric and projection drawing are solved; the rules for the use of conditional graphic designations when performing drawings and diagrams are studied. Students, studying this discipline, acquire the skills of making images of parts using views, sections and sections, making sketches and working drawings, assembly drawings; drawing sizes and position numbers, drawing up specifications.
Purpose of studying of the discipline
the basic rules of execution and registration of design documentation are studied. Full mastery of the drawing as a means of expressing technical thought and
production documents, as well as the acquisition of stable drawing skills are achieved as a result of mastering the entire complex of technical disciplines of the relevant profile, supported by the practice of course and diploma design
Learning Outcomes
ON3 To show general engineering training in mastering the basics of technical and professional skills
Prerequisites
School course
Postrequisites
Technological equipment of meat, dairy industry and public catering enterprises Technological equipment of the baking, macaroni and confectionery industry

Microbiology of food products

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29307 (3012610)

Course	2
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The discipline studies the cultivation of microorganisms; methods of preparing preparations of microorganisms; methods and means of sterilization; morphology of filamentous fungi, yeasts, bacteria; technique of crops of microorganisms on nutrient media; ; methods of quantitative accounting of microorganisms; isolation of a pure culture of lactic acid bacteria; cultural and physiological- biochemical characteristics of bacteria; characteristics of bacteria that cause food spoilage; microbiological analysis of food products; sanitary-bacteriological analysis of water; study of indoor air microflora; sanitary and microbiological analysis of the soil

Purpose of studying of the discipline
Students will learn about microbes and viruses that can only be seen under microcoping, study the patterns of their development, spread in the external environment, changes caused by the organism of animals, plants.

Learning Outcomes
ON4 To apply scientific knowledge gained during general engineering training to improve technological processes

Prerequisites
School course

Postrequisites
Control and assessment of the quality of raw materials and food products Technochemical control of processing industries

Biochemistry

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29317 (3012560)
Course	2
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	0hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The discipline is aimed at studying the laws of the main biochemical processes, determining the relationship between the functions of biomolecules and the structure involved in the reactions of cellular metabolism; studying the main classes of biological substances (structure, properties and mechanism of their functioning), biological and physico-chemical properties of natural compounds, the main pathways of metabolism, the relationship of regulatory mechanisms, metabolic processes; understanding the essence of the mutual transformations of substances in various technological processing.

Purpose of studying of the discipline
cognition of the molecular foundations of life, its main task is to clarify the relationship between the biological function and the molecular structure of substances of living nature

Learning Outcomes
ON4 To apply scientific knowledge gained during general engineering training to improve technological processes

Prerequisites
Chemistry

Postrequisites
Basic and profile disciplines of the EP

Technological equipment of meat, dairy industry and public catering enterprises

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29348 (3012570)
Course	3
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours

Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The course examines the classification of equipment of meat, dairy and catering enterprises, equipment for the purpose of technological processes (mechanical, thermal, microbiological), the use of technological devices for separation, liquids, storage of raw materials, grinding, mixing, molding, slicing, pasteurization and sterilization devices, various types of culinary processing, packaging devices. Study of modern equipment catalogs, carrying out technological calculations of equipment, study of safety rules when working on equipment

Purpose of studying of the discipline
Preparation of students for production and technical, design and research activities related to the operation of technological equipment of the meat, dairy industry and
catering enterprises

Learning Outcomes
ON3 To show general engineering training in mastering the basics of technical and professional skills

Prerequisites
Engineering Graphics

Postrequisites
Designing of enterprises of the meat, dairy industry and public catering

Technological equipment of the baking, macaroni and confectionery industry

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29351 (3012571)
Course	3
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The course of the discipline studies general-purpose equipment, equipment of the pasta, bakery, confectionery industry, the principle of operation of the equipment for the purpose of technological processes - the processes of mixing, whipping, storage, slicing, grinding, pressing, heat treatment, fermentation, packing, characteristics of the equipment, (performance, overall dimensions), equipment brands, technical indicators of the equipment, operation of equipment in production, engineering calculations, compliance with safety regulations in production, the use of modern catalogs of equipment for calculations.

Purpose of studying of the discipline
Preparation of students for production and technical, design and research activities related to the operation of technological equipment of the bakery, pasta and confectionery industry

Learning Outcomes
ON3 To show general engineering training in mastering the basics of technical and professional skills

Prerequisites
Engineering Graphics

Postrequisites
Designing of the enterprises of the baking, macaroni and confectionery industry

Module 4. Ensuring the quality of food products

General technology of processing industries

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29296 (3012565)
Course	2
Term	1
Credits count	5
Lections	15hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

During the training, students study general processes, modern methods, methods of processing raw materials. Thermal, mass transfer, microbiological processes, the theory of building a technological flow at grain processing enterprises are studied. Familiarization with the requirements for raw materials, acceptance and storage. Innovations at processing enterprises, technologies are considered, the possibilities of their application in pasta, confectionery, bakery, cereals, flour mills, starch, yeast, food concentrates are mastered

Purpose of studying of the discipline

Study of the technology of processing industries, familiarization with the requirements for raw materials and finished products

Learning Outcomes

ON5 To apply knowledge of general methods of exposure to raw materials in professional activities

Prerequisites

Educational practice Introduction to the technology of food productions Technological bases of physiology, hygiene and sanitation of nutrition

Postrequisites

Physical methods of food processing Grain science with the basics of crop production

General technology of food production

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29304 (3012609)
Course	2
Term	1
Credits count	5
Lections	15hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

Attracting students to active learning will allow them to master the types of plant and animal raw materials, its classification in this course. The main technological operations (mechanical, thermal, physical, chemical, microbiological), food production technologies with the latest operations and cycles are considered. The study of requirements for harvested raw materials, new product ranges of food products, technological modes and parameters, control processes at the enterprise, its cyclicity, requirements and conformity of products to GOST, technical specifications.

Purpose of studying of the discipline

The purpose of studying the discipline "General technology of food production" is to give an idea of the general technology of food production, the chemical composition, the nutritional and biological value of food products, the processes occurring during the storage of food products, their production technology.

Learning Outcomes

ON5 To apply knowledge of general methods of exposure to raw materials in professional activities

Prerequisites

Educational practice Introduction to the technology of food productions Technological bases of physiology, hygiene and sanitation of nutrition

Postrequisites

Physical methods of food processing Grain science with the basics of crop production

Grain science with the basics of crop production

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29319 (3012567)
Course	2
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline examines the modern development of grain farming in Kazakhstan and foreign countries. The student studies the types of grain raw materials, classification according to various characteristics, the study of the chemical composition of grain crops, morphology and anatomy of grain crops, technological properties of grain crops, qualitative indicators, physical properties of grain crops (nature, clogging, aerodynamic parameters, clogging of grain, borehole, density, size, alignment, electrophysical properties), characteristics types of cereals, legumes and oilseeds.

Purpose of studying of the discipline

Familiarization with the main physical and chemical factors, parameters of technological processes and operations affecting the quality of grain and grain crops.

Learning Outcomes

ON5 To apply knowledge of general methods of exposure to raw materials in professional activities

Prerequisites

Physics

Postrequisites

Technology of elevator industry

Production practice I

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29310 (3012541)
Course	2
Term	2
Credits count	5
Working practice	150hours
Total	150hours
Knowledge control form	Total mark on practice

Short description of discipline

Consolidation of theoretical knowledge gained from the study of basic disciplines, the study of job responsibilities of engineering and technical workers. Application of knowledge of the basic general technological processes of food production, basic indicators of the quality of raw materials, acceptance of raw materials and compliance with its quality.
Technological processes, storage of raw materials, finished products, quality control of products at the enterprise (technochemical and microbiological control at production), characteristics of equipment, its performance are studied at the enterprise.

Purpose of studying of the discipline

Study of technological equipment, basic technological processes, familiarity with the structure of the enterprise

Learning Outcomes

ON5 To apply knowledge of general methods of exposure to raw materials in professional activities

Prerequisites

General technology of processing industries General technology of food production

Postrequisites

Technological equipment of meat, dairy industry and public catering enterprises Technological equipment of the baking, macaroni and confectionery industry

Physical methods of food processing

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29318 (3012566)
Course	2
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

This course involves the study of classification of physical processing methods, modern application in food technology, practical application in production conditions.
The application of optical methods, telecommunication methods, electroplasmolysis, high-frequency methods, acoustic methods, food processing with alternating current, electroplasmolysis, the use of infrared radiation, radioactive radiation treatment are considered. The course studies the influence of physical methods on the change of organoleptic, physico-chemical parameters

Purpose of studying of the discipline

Study of physical methods of processing raw materials, application of modern processing methods at food industry enterprises

Learning Outcomes

ON5 To apply knowledge of general methods of exposure to raw materials in professional activities

Prerequisites

Physics

Postrequisites

Sausage production technology

Module 5. Ensuring the quality of food products

Technological bases of physiology, hygiene and sanitation of nutrition

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29292 (3012562)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline considers the general provisions of the sanitary and epidemiological service, sanitary standards, requirements for food products. Familiarization with industrial sanitation, hygiene, organization of deratization, disinfection, disinsection. The course introduces students to the human digestive system, energy metabolism in the body, macro- and micronutrients of food, protective and toxic components of food, requirements for water quality, raw materials, finished products, semi-finished products, current and planned control of enterprises according to sanitary requirements.

Purpose of studying of the discipline

acquisition of knowledge necessary for the formation of scientific and methodological approaches in solving professional issues in the field of food technology and industrial sanitation.

Learning Outcomes

ON6 To ensure the production of high-quality food products in accordance with the requirements of regulatory docu-ments and modern nutrition science

Prerequisites

School course

Postrequisites

General technology of processing industries General technology of food production

Commodity research of grain products

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29300 (3012569)
Course	2
Term	1
Credits count	3
Lections	15hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	20hours
Independent work of the student	40hours
Total	90hours
Knowledge control form	Examination

Short description of discipline

The course examines the basics and methods of commodity science, nutritional value, chemical composition, consumer properties, classification characteristics of goods. Grain goods, storage conditions, assortment composition, rules for conducting commodity evaluation of grain products using innovative technologies and techniques, storage of grain-scientific goods, modes and storage periods, organization of quality control and evaluation of grain-scientific goods according to organoleptic and physico-chemical indicators are studied.

Purpose of studying of the discipline

formation of theoretical knowledge among future specialists in the field of consumer properties of goods and raw materials, production technology, commodity science, examination of the quality of grain products, assortment, basics of storage, transportation and sale, and practical skills in the organization of product quality control at all stages of commodity movement.

Learning Outcomes

ON6 To ensure the production of high-quality food products in accordance with the requirements of regulatory docu-ments and modern nutrition science

Prerequisites

Introduction to the technology of food productions Technological bases of physiology, hygiene and sanitation of nutrition

Postrequisites

Technology of flour production

Commodity research of food products

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29298 (3012568)

Course	2
Term	1
Credits count	3
Lections	15hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	20hours
Independent work of the student	40hours
Total	90hours
Knowledge control form	Examination

Short description of discipline

The discipline is aimed at familiarization with the basics of commodity science, the study of chemical composition, assortment composition, consumer advantages of food products, storage, classification; organization and conduct of commodity evaluation of food products based on the use of modern methods. With the use of active teaching methods, the student gets acquainted with the modern storage of food products, with the methods of control of food products during storage, during acceptance in warehouses, during the sale of products, during transportation

Purpose of studying of the discipline

Mastering of theoretical knowledge by students, acquisition of skills and abilities in the field of formation of consumer properties, product range and quality of food products necessary for professional activity

Learning Outcomes

ON6 To ensure the production of high-quality food products in accordance with the requirements of regulatory docu-ments and modern nutrition science

Prerequisites

Introduction to the technology of food productions Technological bases of physiology, hygiene and sanitation of nutrition

Postrequisites

Butter and cheese technology

Scientific basis of food production research

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29346 (3014266)
Course	3
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

In the course of the discipline, the processes of organizing research work at the university are studied, analyzed, students search for scientific and technical literature, experimental research, are engaged in the selection of research methods, process data, information on special programs. The discipline involves drawing up a report on the student`s scientific work, getting acquainted with the rules for the formation of applications for filing a patent for an invention, utility model. Physicochemical, microbiological changes in food products during production and storage are investigated.

Purpose of studying of the discipline

Study of the theoretical foundations of scientific research in food production

Learning Outcomes

ON6 To ensure the production of high-quality food products in accordance with the requirements of regulatory docu-ments and modern nutrition science

Prerequisites

General technology of processing industries General technology of food production

Postrequisites

Technology of functional foods production

Control and assessment of the quality of raw materials and food products

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	28274 (3012572)
Course	3
Term	2
Credits count	5
Lections	15hours
Laboratory works	30hours

Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The discipline studies the quality of meat, dairy products, catering products, flour, starch, sugar, confectionery, bakery, confectionery, wine and vodka products, yeast, soft drinks. The student in the course of laboratory work determines the salt content, pH, acidity, alkalinity, basic nutritional nutrients (proteins, fats, carbohydrates, ash, dry substances). The application of an integrated approach is designed to study the normalized indicators of food quality by qualimetric methods. The course introduces modern devices.

Purpose of studying of the discipline
To familiarize students with the knowledge and instill in the organization verify that the quality of incoming raw materials, manufactured products to the established requirements of NTD, recipes and technological modes of production.

Learning Outcomes
ON6 To ensure the production of high-quality food products in accordance with the requirements of regulatory docu-ments and modern nutrition science

Prerequisites
Commodity research of food products Commodity research of grain products

Postrequisites
Final examination

Technochemical control of processing industries

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29704 (3012573)
Course	3
Term	2
Credits count	5
Lections	15hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
When mastering the discipline, the application of standards for the methods of research of finished products and raw materials, sensory, organoleptic, chemical, physical, microbiological techniques, analysis and evaluation of the results of the study of the quality of cereals, cereals, bakery, pasta, confectionery, alcoholic and non-alcoholic beverages, yeast, malt, etc. are studied. The issues of using innovative methods of quality control of products of processing industries are considered.

Purpose of studying of the discipline
To provide students with the necessary knowledge on the organization and conduct of technochemical control at processing plants, in production and technological laboratories.

Learning Outcomes
ON6 To ensure the production of high-quality food products in accordance with the requirements of regulatory docu-ments and modern nutrition science

Prerequisites
Commodity research of food products Commodity research of grain products

Postrequisites
Final examination

Module 6. Technology of production of animal and vegetable products

Technology of grouts industry

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29324 (3012596)
Course	2
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The discipline examines the issues of the assortment composition of cereals, the construction of technological flow at a modern cereal factory, factors contributing to the improvement of technological operations of the cereal factory, the peculiarities of obtaining cereal products, physical, chemical properties, biological, energy, nutritional value of cereals, product quality indicators according to the standard, technological operations of cereal production - acceptance, purification of raw materials, hydrothermal treatment, peeling, sorting, grinding, polishing, packaging, storage, fast-growing cereals.
Purpose of studying of the discipline
Prepare students to actively master the technology of cereal production.
Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry
Prerequisites
General technology of processing industries Commodity research of grain products
Postrequisites
Final examination

Technology of macaroni industry

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29323 (3012589)
Course	2
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
In the course of the discipline, the pasta properties of flour, raw materials of pasta production, the use of automated lines of various capacities for the manufacture of pasta are studied.
Promotes the expansion of knowledge in the field of the current state of pasta production, the study of issues of modern classification of products, the possibility of using modern technological processes of pasta production (acceptance and preparation of raw materials, dough kneading, pressing, drying, stabilization, storage).
Purpose of studying of the discipline
To gain knowledge on pasta technology; modern methods of researching
the quality of raw materials and finished products; methods of mathematical modeling and optimization of technological processes that ensure a high yield of finished products and its best quality.
Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry
Prerequisites
General technology of processing industries
Postrequisites
Final examination

Technology of public catering products production

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29321 (3012586)
Course	2
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The course examines the classification of public catering dishes by species composition, method of culinary processing, technological properties of raw materials intended for cooking culinary dishes, studies the types of heat treatment used for cooking first, second courses, snacks, sweet products, beverages, rules of cooking and assortment of dishes from cottage cheese, legumes, vegetables, meat

and fish products, flour products, egg products, the formation of taste properties of products.

Purpose of studying of the discipline

To master the theoretical foundations of the technology of production of public catering and special purpose products, the practical application of knowledge in the production process.

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

General technology of food production

Postrequisites

Final examination

Technology of whole milk production

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29320 (3012585)
Course	2
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The course examines the characteristics of whole milk, basic fat content, physico-chemical properties. The technologies of production of drinking milk, creamy drinks, characteristics of types, assortment line, indicators according to standard, general technological modes of production of fermented milk drinks, types of starter cultures, the use of lactic acid starter cultures, preparation of starter cultures, current trends in the production of cottage cheese, cottage cheese products, semi-finished products, the range of sour cream and its production technology, frozen, ice cream technology, the quality of finished products.

Purpose of studying of the discipline

To master the theoretical foundations of the technology of whole milk products, the practical application of knowledge in the production process.

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

Commodity research of food products General technology of food production

Postrequisites

Final examination

Modern technologies of storage of meat, dairy products and public catering

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29353 (3012601)
Course	3
Term	1
Credits count	5
Lections	15hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline studies the issues of rational storage of food products in the conditions of the warehouse economy of the enterprise, transportation, when sold in retail premises. Factors contributing to the safety of finished products, temperature and humidity conditions, storage methods, modern packaging materials, changes occurring during storage are considered. The characteristics of food products during storage, laboratory studies of determining the quality of products during storage, types of premises that are intended for storing food products are studied.

Purpose of studying of the discipline

To master modern technologies for the storage of food products, to study measures that increase the shelf life of finished products

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry

ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

Physical methods of food processing Commodity research of food products General technology of food production

Postrequisites

Final examination

Modern technologies of storage of bakery, pasta, confectionery products

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29355 (3012602)
Course	3
Term	1
Credits count	5
Lections	15hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

This course is designed to study the issues of optimal storage of bakery, pasta, confectionery products, the biochemical, physical, colloidal processes occurring during storage, factors affecting the storage process, modern methods and methods of storage, the use of special regimes, ingredients that allow to extend the shelf life of products are studied. The course deals with issues of storage at the enterprise, during transportation, sale, quality standards, regulatory documents during transportation, storage.

Purpose of studying of the discipline

To acquire knowledge in the field of modern technologies for storing bakery, pasta, confectionery products

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

General technology of processing industries Grain science with the basics of crop production Commodity research of grain products

Postrequisites

Final examination

Technology of flour production

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29695 (3012584)
Course	3
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

In this discipline, students study new technologies of flour production, prospects for the development of flour production, modern classification of flour, issues of general properties of grain for flour production, consider the processes of preparing grain for grinding (separation, hydrothermal processing of grain, the formation of grinding batches), the processes of grinding, flour production, intermediate products. characteristics, technology of flour from various cereals.

Purpose of studying of the discipline

Preparing students to actively master the technology of milling enterprises

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

General technology of processing industries Grain science with the basics of crop production Commodity research of grain products

Postrequisites

Final examination

Sausage production technology

Discipline cycle	Profiling discipline
Discipline component	Electives

SubjectID	29698 (3012581)
Course	3
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline examines the modern classification of sausage products according to various parametric characteristics, requirements for the main and auxiliary materials of sausage production, innovative technologies of sausage products and smoked meats, general technological processes and private sausage technology are studied, processes of butchering, mechanical processing, salting of raw materials, ripening of minced meat, heat treatment of sausage products, installation of automated lines of various capacities are considered for the manufacture

Purpose of studying of the discipline

To master the theoretical foundations of sausage production technology, the practical application of knowledge in the production process.

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

Physical methods of food processing Commodity research of food products General technology of food production

Postrequisites

Final examination

Butter and cheese technology

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29696 (3012583)
Course	3
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

he discipline studies the modern classification of cheeses, the cheese suitability of milk, the processes of acceptance and processing of dairy raw materials in the manufacture of cheese. In the process of studying the discipline, the processes of cheese production will be determined, cheese technologies will be studied according to the classification, students will get acquainted with the defects of cheeses. They get acquainted with the modern classification, the assortment composition of butter, its production by 2 methods - churning and converting high-fat cream, oil technology with fillers, oil defects.

Purpose of studying of the discipline

To master the theoretical foundations of butter and cheese production technology, the practical application of knowledge in the production process.

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

Physical methods of food processing Commodity research of food products General technology of food production

Postrequisites

Final examination

Technology of elevator industry

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29700 (3012582)
Course	3
Term	1

Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The course deals with the issues of grain storage, the classification of granaries, modern requirements for granaries, the construction of an elevator network at enterprises of various productivity. The issues of technological regimes for the storage and processing of grain masses, grain products are studied, the properties and parameters of the bulk grain mass are studied, the classification of granaries, types of elevators, technological processes of the elevator industry, types of technological equipment of the elevator industry, storage modes of grain and grain products.

Purpose of studying of the discipline

Mastering by students – future specialists of the basics of the science of granaries and their operation, taking into account best practices.

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

General technology of processing industries Grain science with the basics of crop production Commodity research of grain products

Postrequisites

Production practice II

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29701 (3012542)
Course	3
Term	2
Credits count	5
Working practice II	150hours
Total	150hours
Knowledge control form	Total mark on practice

Short description of discipline

Consolidation and deepening of the theoretical training of the student and the acquisition of practical skills and competencies in the field of professional activity, purposeful and active work of the student to collect the necessary material for the implementation of the course project: the raw material base of the enterprise, study of the main and auxiliary workshops of the enterprise, organization of the technological flow, production technology, layout of workshops, measures for the reconstruction and expansion of production.

Purpose of studying of the discipline

Mastering of technological processes, requirements for the quality of raw materials and finished products, principles of operation of technological equipment, organization of the work of the enterprise and the work of enterprise structures

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

General technology of processing industries Technological equipment of meat, dairy industry and public catering enterprises Technological equipment of the baking, macaroni and confectionery industry General technology of food production

Postrequisites

Final examination

Service and maintenance in catering

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29705 (3012574)
Course	3
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours

Knowledge control form	Examination

Short description of discipline
The course provides for the study of the organization of service at catering establishments, forms of organization of service, services depending on the category of the enterprise, classification of services, kitchen, tableware, purpose, application, classification of table linen, its use at banquets, types of halls, forms of service, reception of orders for a banquet, types of banquets, types of menus, compilation menu, rules of etiquette, design, serving dishes, requirements for staff clothing, corporate culture of enterprises.

Purpose of studying of the discipline
Formation of students` understanding of the technique and technology of service, acquisition by students of theoretical knowledge and practical skills in the field of service technology; preparation of students to use the skills they have acquired in their future work.

Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry

Prerequisites
Physical methods of food processing Commodity research of food products General technology of food production

Postrequisites
Final examination

Special technologies of processing industries

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29709 (3012604)
Course	3
Term	2
Credits count	5
Lections	15hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The course covers the types of raw materials, technological modes, production parameters, product quality control, technology features, production lines and equipment.The current directions of processing industries are special technologies, where the issues of technology for the production of breakfast cereals, muesli, chips, food concentrates from cereals, instant noodles technology, the production of instant porridges, the production of corn sticks, resource–saving technologies for the production of cereal products, the preparation of sweets from nut crops are studied.

Purpose of studying of the discipline
Master knowledge in the field of special technologies of processing industries (breakfast cereals, muesli, cereals, chips, food concentrates), master methods of food quality control.

Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites
General technology of processing industries Grain science with the basics of crop production Commodity research of grain products

Postrequisites
Final examination

Technology of vegetarian and dietary dishes at catering establishments

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29708 (3012603)
Course	3
Term	2
Credits count	5
Lections	15hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The course of the discipline examines the existing theories of nutrition (rational, balanced, dietary, blood type nutrition and others) vegetarianism as one of the theories of nutrition, the history of the emergence of vegetarian cuisine, the principles of therapeutic nutrition, the founders of therapeutic nutrition, classification of dietary tables, types of products used to prepare dietary dishes by numbers. Technological techniques and methods of culinary processing are studied in the preparation of dietary dishes according to the purpose, recipe, product yield standards

Purpose of studying of the discipline

To master the basics of the technology of cooking dietetic cuisine, to study the principles of dietary nutrition, to study the technology of cooking vegetarian cuisine.

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

Physical methods of food processing Commodity research of food products General technology of food production

Postrequisites

Final examination

Technology of sugar confectionery and chocolate

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29707 (3012575)
Course	3
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

This discipline contributes to the acquisition of new knowledge about modern technologies of sugar confectionery, chocolate, assortment formation.
New formulations of sugar confectionery products, innovative developments in the technology of sugar products, simple, complex formulations, modern methods of calculating recipes, output, new types of chocolate products and their manufacturing technology, cocoa beans, cocoa butter as raw materials for the production of chocolate, raw calculations, the quality of products according to standards are considered.

Purpose of studying of the discipline

Mastering the technology of confectionery products, basic technological operations, carrying out basic technological calculations

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

General technology of processing industries Grain science with the basics of crop production Commodity research of grain products

Postrequisites

Final examination

World cuisine

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29712 (3012590)
Course	3
Term	2
Credits count	5
Lections	15hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline contributes to the acquisition of knowledge about the cuisines of foreign countries, about historical traditions, images in nutrition, culinary products prepared with the use of special technologies, about historical names of dishes, about the use of spices that create the flavor of national cuisine, about the study of factors affecting nutrition priorities (climatic, geographical, political, social, historical) and the study of modern trends in nutrition, about examples of design, serving dishes.

Purpose of studying of the discipline

Master the technology of cooking dishes of national and foreign cuisine, acquire practical skills in organizing the production of national and foreign cuisine.

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

Physical methods of food processing Commodity research of food products General technology of food production

Postrequisites

Final examination

Technology of flour confectionery

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29713 (3012591)
Course	3
Term	2
Credits count	5
Lections	15hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

When studying the discipline with the use of trainings in an active form, the assortment of flour confectionery products, the purpose and role in daily human nutrition, the composition of raw materials, priority areas (functional products, therapeutic and preventive purposes) are considered. Students get acquainted with the technologies of making waffles, cookies, gingerbread, types of dough pieces, theoretical issues of creating pastry dough. When studying the course, the study of the storage of products and the further application of methods in practice is calculated.

Purpose of studying of the discipline

Training of a highly qualified specialist who is able to work creatively in the conditions of market relations at the enterprises of the confectionery industry, design and research institutions.

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

General technology of processing industries Grain science with the basics of crop production Commodity research of grain products

Postrequisites

Final examination

Technology of canned meat and fish production

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29710 (3012587)
Course	3
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

This discipline studies the role of canned food in human nutrition, nutritional value, classification of canned meat and fish, raw materials and canned packaging, theoretical foundations of canning, modern methods and methods of canning, modern modes and stages of production of canned meat and fish (preparation of raw materials, pre-cooking, portioning, packaging, sterilization process, storage of canned food), the requirements for packaging, chemical, microbiological, mechanical bombing of products are being studied.

Purpose of studying of the discipline

Students gain knowledge about the technology of canning canned meat and fish, study the main production processes and the formula for sterilizing canned food.

Learning Outcomes

ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites

Physical methods of food processing Commodity research of food products General technology of food production

Postrequisites

Final examination

Technology of breadmaking

Discipline cycle	Profiling discipline

Discipline component	Electives
SubjectID	29711 (3012598)
Course	3
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The discipline provides for obtaining knowledge and studying the development of bakery production in Kazakhstan and its role in the food cluster, types of raw materials of bakery production, studying the processes of bakery production (preparation of ingredients, kneading, fermentation, dough forming, vystoyka, baking, cooling, storage), compounding, studying defects and diseases of bread, technology of certain types of products, requirements for bakery products in accordance with regulatory and technical documentation, modern storage of bakery products.

Purpose of studying of the discipline
Study of the technology of bakery products, basic technological operations, requirements for the quality of finished products, basic technological calculations

Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites
General technology of processing industries Grain science with the basics of crop production Commodity research of grain products

Postrequisites
Final examination

Technology of functional foods production

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	29715 (3012564)
Course	4
Term	1
Credits count	6
Lections	30hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	40hours
Independent work of the student	80hours
Total	180hours
Knowledge control form	Examination

Short description of discipline
In the course of the discipline, the role of food products, the importance of nutrition of various age groups is studied, analyzed, nutrition theories and classification are considered. Modern trends applied in innovation, the formation of a cluster of functional products in different countries, types of raw materials and ingredients, features, technological modes and formulations, methods of processing raw materials, food additives, biologically active substances used in the technology of functional products, the quality of finished products, product control are studied.

Purpose of studying of the discipline
To master the theoretical foundations of functional food technology, the practical application of knowledge in the production process.

Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites
Scientific basis of food production research

Postrequisites
Final examination

Technology of fermentation industries

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29757 (3012593)
Course	4
Term	1
Credits count	6

Lections	30hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	40hours
Independent work of the student	80hours
Total	180hours
Knowledge control form	Examination

Short description of discipline
The discipline examines the requirements for the quality of raw materials at enterprises, the organization of flow in fermentation production, the use of automation, special methods of processing raw materials, modern technologies of fermentation production, technologies of alcoholic beverages, soft drinks, malt, yeast, the types of microorganisms used in fermentation processes, enzyme complexes are studied, the issues of storage of finished products are studied qualitative characteristics of products, prospects for the development of the fermentation industry, production of products in foreign countries.

Purpose of studying of the discipline
To master the theoretical foundations of the technology of fermentation products, the practical application of knowledge in the production process

Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites
General technology of processing industries Grain science with the basics of crop production Commodity research of grain products

Postrequisites
Final examination

Technology of children and dietary milk products

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29759 (3012594)
Course	4
Term	1
Credits count	6
Lections	30hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	40hours
Independent work of the student	80hours
Total	180hours
Knowledge control form	Examination

Short description of discipline
The discipline considers the relevance of the development of children`s and dietary dairy products in modern market requirements, analysis of quality, raw materials used, requirements and regulatory indicators, types of children`s dairy products (enpits, dry mixes, liquid, pasty, milk porridges), the range of dietary dairy products, methods of production of dietary and children`s products, technological control of production, formation of quality at all stages of production

Purpose of studying of the discipline
Studying the technology of children`s dietary dairy products, mastering knowledge in the field of creating multicomponent recipes of children`s and dietary dairy products.

Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites
Physical methods of food processing Commodity research of food products General technology of food production

Postrequisites
Final examination

Technology of combined feed industry

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29745 (3012597)
Course	4
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours

Knowledge control form	Examination

Short description of discipline
The discipline studies the production of compound feeds, the use of grain crops used for the manufacture of compound feeds, types of compound feed products used for the cultivation of farm animals, technologies, formulations of compound feeds, the study of production stages (acceptance and preparation of raw materials, grinding, mixing, dosing, packaging, storage), changes in feed products during storage, the quality of products, manufacturing feed products in foreign countries, automated feed lines

Purpose of studying of the discipline
Study of the main technological stages of the production of compound feeds. Mastering this discipline will allow the student to gain knowledge and
skills in the management of the technological process at feed mills.

Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites
General technology of processing industries Grain science with the basics of crop production Commodity research of grain products

Postrequisites
Final examination

Technology of production of meat products for children and dietary nutrition

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29744 (3012592)
Course	4
Term	1
Credits count	6
Lections	30hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	40hours
Independent work of the student	80hours
Total	180hours
Knowledge control form	Examination

Short description of discipline
The discipline studies modern aspects, trends in the creation of biomedical approaches in the formation of technologies for children`s and dietary nutrition from fish and meat products, the study of physiological norms and needs of various age groups of children, the characteristics of raw materials, new technological operations and recipes, the formation of the quality of modern medical and children`s products, the factors of the use of new biologically active components are analyzed , food additives for children`s and dietary products.

Purpose of studying of the discipline
Studying the technology of children`s dietary meat products, mastering knowledge in the field of creating multicomponent recipes for children`s and dietary meat products.

Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry

Prerequisites
Physical methods of food processing Commodity research of food products General technology of food production

Postrequisites
Final examination

Vegetable oil production technology

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29762 (3012595)
Course	4
Term	1
Credits count	6
Lections	30hours
Laboratory works	30hours
Independent work of a student under the guidance of a teacher	40hours
Independent work of the student	80hours
Total	180hours
Knowledge control form	Examination

Short description of discipline
The discipline allows you to study the general issues of obtaining vegetable oils, the processes of preparation, storage of oilseeds, preparatory processes, basic processes, refining, the processing of secondary raw materials of oilseed production is studied. The use of oilseeds in the technology of vegetable oils. The use of active teaching methods allows you to get acquainted with the technology of food emulsion products (margarine, sauces, mayonnaise), master the knowledge in the storage of vegetable oils and fat-and-oil products, get acquainted with the current standards.

Purpose of studying of the discipline
To master the theoretical foundations of vegetable oil technology, the practical application of knowledge in the production process.
Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry
Prerequisites
General technology of processing industries Grain science with the basics of crop production Commodity research of grain products
Postrequisites
Final examination

Technology of dry dairy products and canned milk

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29743 (3012588)
Course	4
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	15hours
Laboratory works	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The discipline examines modern theories of food drying, features of drying dairy products, studies the issues of primary processing of dairy raw materials, stages, processes necessary to obtain dry products, types of milk stabilizers necessary for its thermal stability during drying, classification of canned milk products, assortment range, condensed dairy products, quality requirements, production methods, storage, defects of canned milk products, nutritional value.
Purpose of studying of the discipline
Students gain knowledge about the technology of preserving dairy products, study the principles of canning, requirements for the quality of finished products
Learning Outcomes
ON7 To organize the technological process of production at the enterprises of the food industry
ON8 To organize the technological process of production at the enterprises of the food industry
Prerequisites
Physical methods of food processing Commodity research of food products General technology of food production
Postrequisites
Final examination

Module 7. Organization of the companys activities

Organization and planning of production

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29736 (3012605)
Course	4
Term	1
Credits count	3
Lections	15hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	20hours
Independent work of the student	40hours
Total	90hours
Knowledge control form	Examination

Short description of discipline
The discipline «Organization and production planning» gives different ideas about the basics of organization, industrial production planning, methods of evaluating its effective activities. As well as the analysis and forecast of production risks and losses of the enterprise, including ways to eliminate them as soon as possible. Students will gain knowledge and skills in the field of implementation, organization and planning of industrial production of the enterprise.
Purpose of studying of the discipline
The purpose of studying the discipline "Organization and planning of production" is to study the theoretical and methodological foundations of the organization and planning of production and production infrastructure at enterprises.
Learning Outcomes
ON9 To manage the activities of food industry enterprises
Prerequisites

Mathematics Bases of economics, law and ecological knowledge

Postrequisites

Final examination

Designing of enterprises of the meat, dairy industry and public catering

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29726 (3012578)
Course	4
Term	1
Credits count	6
Lections	30hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	40hours
Independent work of the student	80hours
Total	180hours
Knowledge control form	Examination

Short description of discipline

Students in the educational process actively master the rules of designing enterprises according to the industry orientation, the technical and economic effectiveness of designing, the justification of reconstructions of enterprises, the study of the intra-factory structure of the enterprise, the relationship and flow of production, material and raw materials calculation, selection of equipment based on calculations, calculations of the areas of workshops and the entire enterprise, calculation of the number of workers of the main production. The layout of workshops, types of the master plan, its indicators, space-planning solutions are studied.

Purpose of studying of the discipline

To study the basics of the organization of the design of meat, milk and fish industry enterprises of various types, including poultry meat, and public catering, to teach methods of technological calculations, principles of the development of spatial planning and architectural and construction solutions.

Learning Outcomes

ON10 To develop design standards for the organization of the enterprise

Prerequisites

Production practice II Technological equipment of meat, dairy industry and public catering enterprises

Postrequisites

Final examination

Designing of the enterprises of the baking, macaroni and confectionery industry

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29734 (3012579)
Course	4
Term	1
Credits count	6
Lections	30hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	40hours
Independent work of the student	80hours
Total	180hours
Knowledge control form	Examination

Short description of discipline

In the course of this discipline, students study industrial norms and rules for the design of bakery, pasta, confectionery industries, the structure of enterprises, the organization of technological flows of small, medium, high- capacity enterprises, the arrangement of automated lines at enterprises, calculations on the expenditure of funds for the main production, calculation of recipes, preparation of raw material balances, calculations of equipment, areas, arrangement equipment on layouts, drawing up master plans, planning solutions at enterprises, requirements for the USDD.

Purpose of studying of the discipline

Study of the theoretical foundations of the design of enterprises of flour and cereal industry, mastering practical design skills

Learning Outcomes

ON10 To develop design standards for the organization of the enterprise

Prerequisites

Production practice II Technological equipment of the baking, macaroni and confectionery industry

Postrequisites

Final examination

Technological reporting at the enterprises of deep processing of grain

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29717 (3012576)

Course	4
Term	1
Credits count	5
Lections	30hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline is aimed at studying the organization of accounting at enterprises, studying the rules and methods of accounting and control of tangible assets, intra-factory movement and movement of tangible assets, accounting forms, accounting documentation, registration of various forms of reporting on the accounting of materials, preparation of acts, inventory forms, rules of inventory at enterprises, acceptance of raw materials, shipment of inventory, movement of raw materials, semi-finished products, finished products at the enterprise.

Purpose of studying of the discipline

Students gain knowledge about the methods of accounting for fixed assets, raw materials, auxiliary materials and finished products, cost calculation and preparation of reports, documentation of acceptance and sale of goods, their disposal, write-off.

Learning Outcomes

ON9 To manage the activities of food industry enterprises

Prerequisites

Technology of elevator industry Technology of breadmaking

Postrequisites

Final examination

Technological reporting at the enterprises of the meat, dairy industry and public catering

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29720 (3012577)
Course	4
Term	1
Credits count	5
Lections	30hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline allows you to master the rules for the organization of accounting of material assets at food industry enterprises, the prospects for the use of various forms of accounting, the formation of a balance of funds, materials, the preparation of in-house reports, the preparation of inventory lists, acts, invoices, calculation cards, keeping logs of products in material warehouses, the release of finished products, the movement of inventory, the release of products, the offset of products by actual weight and basic quality indicators.

Purpose of studying of the discipline

Students gain knowledge about the methods of accounting for fixed assets, raw materials, auxiliary materials and finished products, cost calculation and preparation of reports, documentation of acceptance and sale of goods, their disposal, write-off.

Learning Outcomes

ON9 To manage the activities of food industry enterprises

Prerequisites

Sausage production technology Technology of canned meat and fish production

Postrequisites

Final examination

Cost management

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29742 (3012607)
Course	4
Term	1
Credits count	3
Lections	15hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	20hours
Independent work of the student	40hours

Total	90hours
Knowledge control form	Examination

Short description of discipline
The purpose of the course «Cost Management» is the formation of students` competencies in cost management, the ability to conduct analytical work in the field of cost management. This discipline is aimed at forming students with a set of necessary theoretical knowledge to understand the essence of costs and the basics of their management, as well as practical skills necessary for the purposes of strategic cost management.

Purpose of studying of the discipline
To reveal the problems in the field of organization, planning and management of production in a market economy in order to reduce costs.

Learning Outcomes
ON9 To manage the activities of food industry enterprises

Prerequisites
Mathematics Bases of economics, law and ecological knowledge

Postrequisites
Final examination

Economics of enterprise

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	29739 (3012606)
Course	4
Term	1
Credits count	3
Lections	15hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	20hours
Independent work of the student	40hours
Total	90hours
Knowledge control form	Examination

Short description of discipline
At the present stage of economic reforms, significant changes are taking place in the economy, especially at the microeconomic level: the nature and methods of economic activity of enterprises are changing. This course studies in detail the resources of the enterprise, the efficiency of their use, profitability and the main technical and economic indicators of the functioning of the enterprise. In addition, methods of stimulating labor resources, in order to optimize the production capacity and capital of the enterprise.

Purpose of studying of the discipline
The purpose of studying the discipline "Enterprise Economics" is to develop students` economic thinking based on the study of the economic mechanism of the enterprise in market conditions, providing deep theoretical knowledge and practical experience in the field of economics and organization of the enterprise and the use of technological equipment.

Learning Outcomes
ON9 To manage the activities of food industry enterprises

Prerequisites
Mathematics Bases of economics, law and ecological knowledge

Postrequisites
Final examination

Pre-diploma practice

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29770 (3012540)
Course	4
Term	2
Credits count	15
Undergraduate practice	450hours
Total	450hours
Knowledge control form	Total mark on practice

Short description of discipline
The student is engaged in the accumulation of knowledge and statistical data that will be necessary for him when writing a thesis, the enterprise is studied from various angles (economic, technological, raw materials, managerial). The issues of supply of raw materials, sale of finished products, quality of raw materials, technological processes, technochemical control are considered. Technological equipment, shop layouts, work of production workshops, labor rationing, annual planning and planning for the future are studied.

Purpose of studying of the discipline
The study of technological processes, the principles of operation of technological equipment and safety, the structure of the enterprise, economic planning at the enterprise, the organization of labor at the enterprise, the possibility of reconstruction of the enterprise, enterprise management processes.

Learning Outcomes

ON9 To manage the activities of food industry enterprises
ON10 To develop design standards for the organization of the enterprise

Prerequisites

Designing of enterprises of the meat, dairy industry and public catering Designing of the enterprises of the baking, macaroni and confectionery industry

Postrequisites

Final examination

Production practice III

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	29772 (3012612)
Course	4
Term	2
Credits count	15
Working practice	450hours
Total	450hours
Knowledge control form	Total mark on practice

Short description of discipline

Production practice 3 contributes to the consolidation of the theoretical training of the student and the mastery of professional skills that will be used in production. Implementation of purposeful and active activities to accumulate material for a thesis (project). During the internship, the structure and composition of the enterprise, the organization of the delivery of raw materials, the sale of products, the movement of semi-finished products, production technology are studied, the analysis of the economic activity of the enterprise, the organization of marketing and management at the enterprise is carried out.

Purpose of studying of the discipline

Study of the organization of production, technology, technological equipment, planning and design of enterprises

Learning Outcomes

ON9 To manage the activities of food industry enterprises
ON10 To develop design standards for the organization of the enterprise

Prerequisites

Designing of enterprises of the meat, dairy industry and public catering Designing of the enterprises of the baking, macaroni and confectionery industry

Postrequisites

Final examination

Final examination

Writing and defending a graduation project or preparing and passing a comprehensive exam.

Diploma project

Credits count	8

Comprehensive exam

Credits count	8

4.Summary table on the scope of the educational program

«6B07202 - Technology of Food Products»

Name of discipline	Cycle/ Component	Term	Number of credits	Total hours	Lec	SPL	LC	IWST	IWS	Knowledge control form
Module 1. Fundamentals of social and humanitarian knowledge										
Foreign language	GER/CC	1	5	150		45		35	70	Examination
Kazakh language	GER/CC	1	5	150		45		35	70	Examination
Bases of economics, law and ecological knowledge	GER/US	1	5	150	15	30		35	70	Examination
Russian language	GER/CC	1	5	150		45		35	70	Examination
Physical Culture	GER/CC	1	2	60		60				Differentiated attestation
Kazakh language	GER/CC	2	5	150		45		35	70	Examination
Foreign language	GER/CC	2	5	150		45		35	70	Examination
History of Kazakhstan	GER/CC	2	5	150	30	15		35	70	Qualification examination
The module of socio-political knowledge (sociology, political science, cultural studies, psychology)	GER/CC	2	8	240	30	45		55	110	Examination
Russian language	GER/CC	2	5	150		45		35	70	Examination
Physical Culture	GER/CC	2	2	60		60				Differentiated attestation
Physical Culture	GER/CC	3	2	60		60				Differentiated attestation
World of Abai	BS/US	3	3	90	15	15		20	40	Examination
Information and communication technology	GER/CC	4	5	150	15	15	15	35	70	Examination
Physical Culture	GER/CC	4	2	60		60				Differentiated attestation
Philosophy	GER/CC	5	5	150	15	30		35	70	Examination
Module 2.Natural science knowledge										
Mathematics	BS/US	1	5	150	15	30		35	70	Examination
Physics	BS/US	1	3	90	15	15		20	40	Examination
Chemistry	BS/US	3	5	150	15	15	15	35	70	Examination
Module 3. characteristics of raw materials and technological processes										
Introduction to the technology of food productions	BS/US	1	3	90	15	15	0	20	40	Examination
Educational practice	BS/US	2	2	60						Total mark on practice
Engineering Graphics	BS/US	3	5	150	15	30		35	70	Examination
Microbiology of food products	BS/US	3	5	150	15	15	15	35	70	Examination
Biochemistry	BS/US	4	5	150	15	0	30	35	70	Examination

Technological equipment of meat, dairy industry and public catering enterprises	BS/CCh	5	5	150	15	30		35	70	Examination
Technological equipment of the baking, macaroni and confectionery industry	BS/CCh	5	5	150	15	30		35	70	Examination
Module 4. Ensuring the quality of food products										
General technology of processing industries	BS/CCh	3	5	150	15		30	35	70	Examination
General technology of food production	BS/CCh	3	5	150	15		30	35	70	Examination
Grain science with the basics of crop production	BS/CCh	4	5	150	15	15	15	35	70	Examination
Production practice I	BS/US	4	5	150						Total mark on practice
Physical methods of food processing	BS/CCh	4	5	150	15	15	15	35	70	Examination
Module 5. Ensuring the quality of food products										
Technological bases of physiology, hygiene and sanitation of nutrition	BS/US	2	5	150	15	30		35	70	Examination
Commodity research of grain products	BS/CCh	3	3	90	15	15		20	40	Examination
Commodity research of food products	BS/CCh	3	3	90	15	15		20	40	Examination
Scientific basis of food production research	BS/US	5	5	150	15	15	15	35	70	Examination
Control and assessment of the quality of raw materials and food products	BS/CCh	6	5	150	15		30	35	70	Examination
Technochemical control of processing industries	BS/CCh	6	5	150	15		30	35	70	Examination
Module 6. Technology of production of animal and vegetable products										
Technology of grouts industry	AS/CCh	4	5	150	15	15	15	35	70	Examination
Technology of macaroni industry	AS/CCh	4	5	150	15	15	15	35	70	Examination
Technology of public catering products production	AS/CCh	4	5	150	15	15	15	35	70	Examination
Technology of whole milk production	AS/CCh	4	5	150	15	15	15	35	70	Examination
Modern technologies of storage of meat, dairy products and public catering	BS/CCh	5	5	150	15		30	35	70	Examination
Modern technologies of storage of bakery, pasta, confectionery products	BS/CCh	5	5	150	15		30	35	70	Examination
Technology of flour production	AS/CCh	5	5	150	15	15	15	35	70	Examination
Sausage production technology	AS/CCh	5	5	150	15	15	15	35	70	Examination
Butter and cheese technology	AS/CCh	5	5	150	15	15	15	35	70	Examination
Technology of elevator industry	AS/CCh	5	5	150	15	15	15	35	70	Examination
Production practice II	BS/US	6	5	150						Total mark on practice
Service and maintenance in catering	BS/CCh	6	5	150	15	15	15	35	70	Examination
Special technologies of processing industries	BS/CCh	6	5	150	15		30	35	70	Examination
Technology of vegetarian and dietary dishes at catering establishments	BS/CCh	6	5	150	15		30	35	70	Examination
Technology of sugar confectionery and chocolate	BS/CCh	6	5	150	15	15	15	35	70	Examination
World cuisine	AS/CCh	6	5	150	15		30	35	70	Examination

Technology of flour confectionery	AS/CCh	6	5	150	15		30	35	70	Examination
Technology of canned meat and fish production	AS/CCh	6	5	150	15	15	15	35	70	Examination
Technology of breadmaking	AS/CCh	6	5	150	15	15	15	35	70	Examination
Technology of functional foods production	BS/US	7	6	180	30		30	40	80	Examination
Technology of fermentation industries	AS/CCh	7	6	180	30		30	40	80	Examination
Technology of children and dietary milk products	AS/CCh	7	6	180	30		30	40	80	Examination
Technology of combined feed industry	AS/CCh	7	5	150	15	15	15	35	70	Examination
Technology of production of meat products for children and dietary nutrition	AS/CCh	7	6	180	30		30	40	80	Examination
Vegetable oil production technology	AS/CCh	7	6	180	30		30	40	80	Examination
Technology of dry dairy products and canned milk	AS/CCh	7	5	150	15	15	15	35	70	Examination
Module 7. Organization of the companys activities										
Organization and planning of production	BS/CCh	7	3	90	15	15		20	40	Examination
Designing of enterprises of the meat, dairy industry and public catering	BS/CCh	7	6	180	30	30		40	80	Examination
Designing of the enterprises of the baking, macaroni and confectionery industry	BS/CCh	7	6	180	30	30		40	80	Examination
Technological reporting at the enterprises of deep processing of grain	BS/CCh	7	5	150	30	15		35	70	Examination
Technological reporting at the enterprises of the meat, dairy industry and public catering	BS/CCh	7	5	150	30	15		35	70	Examination
Cost management	BS/CCh	7	3	90	15	15		20	40	Examination
Economics of enterprise	BS/CCh	7	3	90	15	15		20	40	Examination
Pre-diploma practice	AS/CCh	8	15	450						Total mark on practice
Production practice III	AS/CCh	8	15	450						Total mark on practice
Final examination										
Diploma project		8	8	240						
Comprehensive exam		8	8	240						