

CATALOG OF ELECTIVE DISCIPLINES

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

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

0720
(Code in the International Standard Classification of Education)

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

8D07202 - Food Safety
(Code and name of the educational program)

Doctor of philosophy (PhD)
(Level of preparation)

set of 2024

Developed

By the Academic Committee of the OP
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Reviewed

At the meeting of the Academic Quality Committee of the Faculty of Engineering and Technology
Protocol No. 3 dated 15.01.2024
At the meeting of the Academic Quality Committee Research School of Food Engineering
Recommended for approval by the University Academic Council
Protocol No. 1 dated 06.06.2024

Approved

at a meeting of the University Academic Council by protocol No. 3 of January 16, 2024.

at a meeting of the University Academic Council by protocol No. 6 of June 18, 2024.

Analysis and improvement of the food safety management system

Discipline cycle	Profiling discipline
Course	1
Credits count	5
Knowledge control form	Examination

Short description of discipline

Acquisition by doctoral students of the knowledge necessary to carry out scientific, industrial and technological activities. Analysis and improvement of the food safety management system. Continuous improvement and updating of the food safety management system. Identification and compilation of a list of risks fraught with possible contamination of food products, which with a sufficient degree of probability may manifest themselves during the production process of the product, as well as develop preventive measures designed to prevent.

Purpose of studying of the discipline

To acquire the knowledge necessary for conducting scientific, production, and technological activities aimed at analyzing and improving the food safety management system.

Learning Outcomes

ON7 Use the knowledge of basic sciences in the design and development of food safety management systems; be able to organize research activities in the study of physico-chemical, toxicological, microbiological properties in food products, methods of their processing

ON8 Analyze and apply modern foreign methods of analysis and means of ensuring food safety.

Learning outcomes by discipline

Identify and compile a list of risks that may lead to potential contamination of food products;

Develop preventive measures to prevent the occurrence and development of these risks.

Prerequisites

Masters degree course

Postrequisites

Doctoral student research work, including internship and doctoral dissertation VI

International safety of technological process and production

Discipline cycle	Profiling discipline
Course	1
Credits count	5
Knowledge control form	Examination

Short description of discipline

The course is about the knowledge of conducting scientific work, mastering the principles of identifying food safety definitions, working with regulatory documentation for food raw materials and food products; necessary to complete a doctoral dissertation. Legal and organizational issues of safety. Safety requirements for the device and operation of production equipment. Application of safety instructions, compliance with the requirements.

Purpose of studying of the discipline

know international and domestic food safety systems;

- be able to identify risks in food production according to the HACCP system.

Learning Outcomes

ON7 Use the knowledge of basic sciences in the design and development of food safety management systems; be able to organize research activities in the study of physico-chemical, toxicological, microbiological properties in food products, methods of their processing

ON8 Analyze and apply modern foreign methods of analysis and means of ensuring food safety.

Learning outcomes by discipline

- familiarization with the international and domestic food safety system;

- knowledge in the field of determination of harmful substances in food raw materials and products;

- scientific knowledge in the field of food safety research.

Prerequisites

Masters degree course

Postrequisites

Doctoral student research work, including internship and doctoral dissertation VI

Designing and developing of the system of safety management of food products

Discipline cycle	Profiling discipline
Course	1
Credits count	5
Knowledge control form	Examination

Short description of discipline

On the application of the internationally recognized systematic approach HACCP or the system of hazard Analysis and Control Critical Points. About a rational approach to the creation of the HACCP system meat and dairy enterprises and public catering. On the Legislation the Eurasian Economic Union in the field of food safety. About the development and application of the HACCP system.

Purpose of studying of the discipline

on the application of internationally accepted systematic approach HAACCP or systems analysis hazards and control of critical points (HACCP).

Learning Outcomes

ON10 Implements the system of quality and safety of food products based on the HACCP system

Learning outcomes by discipline

measured values used in the implementation of food safety management; apply modern approaches and methods of analysis and improvement of food safety systems.

Prerequisites

Masters degree course

Postrequisites

Doctoral student research work, including internship and doctoral dissertation IV

Production environment and potential sources of hazards

Discipline cycle	Profiling discipline
Course	1
Credits count	5
Knowledge control form	Examination

Short description of discipline

The study of the main physical, chemical, and biological factors affecting the quality of food products. Chemical composition and physico-mechanical properties of food products. Identification and compilation of a list of risks fraught with possible contamination of food products, which are likely to manifest themselves in the production process of the product, as well as the development of preventive measures designed to prevent the appearance and development of risks.

Purpose of studying of the discipline

To study the main physical, chemical, and biological factors affecting food quality

Learning Outcomes

ON4 Understands the genetic toxicity of substances, toxicological and hygienic problems arising in the food industry

ON5 Identify the threats of preliminary measures identified by analyzing hazards that threaten food safety at work

Learning outcomes by discipline

Understand production process protection systems from hazardous and harmful factors.

Study the concepts and definitions in the field of production site safety, sources of hazards, and hazard classifications.

Prerequisites

Masters degree course

Postrequisites

Doctoral student research work, including internship and doctoral dissertation VI

Food Safety Management System Certification

Discipline cycle	Profiling discipline
Course	1
Credits count	5
Knowledge control form	Examination

Short description of discipline

General principles for the development of the HACCP system. Requirements GOST R 51705.1-2001 "Food quality management based on HACCP principles". Requirements for documentation and records of the food safety system in accordance with the requirements of MS ISO 22000. Continuous improvement and updating of the food safety management system. Risk analysis, allowing to identify all potential risks associated with the production, storage, transportation and distribution of a product, to identify their sources and the likelihood of occurrence.

Purpose of studying of the discipline

to acquire theoretical knowledge and practical skills necessary for the development, implementation and certification of a food safety management system in accordance with international standards.

Learning Outcomes

ON2 Be able to conduct an analysis of foreign methods and means of ensuring the continuous improvement of the effectiveness of the international food safety management system

ON3 Apply the general principles of planning and implementation of the HACCP system

Learning outcomes by discipline

1. To acquire knowledge about the basic principles and standards of the food safety management system.
2. Learn how to develop and implement certification procedures to ensure compliance with the requirements of international standards.
3. Understand and apply the processes of internal and external audit of the food safety management system.
4. Be able to identify risks and implement preventive measures to prevent possible threats to food safety.

Prerequisites

Masters degree course

Postrequisites

Doctoral student research work, including internship and doctoral dissertation VI

GMO system and safety of food products

Discipline cycle	Profiling discipline
Course	1
Credits count	5
Knowledge control form	Examination

Short description of discipline

Course on production-technological activity on the organization and effective implementation of input control during the production of GMOs, production control and finished product quality; conducting standard and certification tests for relevant raw materials and finished products; analysis of problematic production conditions, solving problematic tasks and problems. Basic concepts in the field of quality

and safety of food raw materials and food products.

Purpose of studying of the discipline

Identify threats from preliminary activities identified through analysis of hazards threatening food safety in production.

Learning Outcomes

ON9 Applies knowledge of the history and origin of the food safety management system, the hazard analysis system and the critical control points, the Codex Alimentarius Commission activities, implements a food quality and safety system based on the HACCP system

ON11 To participate in the development of high-quality and safe packaging materials and their use in technological and sanitary modes of processing products and requirements for their quality.

Learning outcomes by discipline

Analyze the problems of production situations, make decisions on problematic tasks and issues.

Prerequisites

Masters degree course

Postrequisites

Doctoral student research work, including internship and doctoral dissertation VI