



Entitlement Food Safety and Quality, 10 cr.

Prerequisites

B1 level of English language. Chemistry. Nutrition and Food Chemistry. Environmental Protection and Sustainable Production. Non Animal Origin Food Products Technology. Animal Origin Food Products Technology.

Main aim

Provide students with the knowledge of the EU and Lithuanian legislation governing food safety and labelling, advantages and disadvantages of food safety and quality systems, installation and maintenance, in order to protect the health of consumers, metabolic characteristics of microorganisms, physiological processes and their consequences, diversity of beneficial microorganisms, modern sensory foodstuffs quality test methods; to develop skills of the method application and students ability to evaluate the sensory properties of foods using sensory analysis methods and techniques; to provide knowledge necessary for the food technologist and develop the competence of the quality system manager.

Summary

While studying the module students analyse the EU and Lithuanian legal acts, general, compulsory, veterinary, food safety and quality requirements, self control system and principles, foodstuff labelling, storage and transportation requirements, programme for the product detention and withdrawal from the market, freshness of raw materials and foodstuffs, possible contamination, ways to protect consumers from potential illness, environmental bacteria, microorganism metabolic features. Students study modern sensory food quality research and evaluation methods, their influence on the development process of a new food product, improvement of existing products and selection of new raw materials.

Learning Outcomes

1. Be able to analyse and apply the standards and regulations, safety and quality indicators for raw materials and products.
2. Be able to describe Lithuanian hygiene norms and veterinary requirements for food business operators; apply the food quality knowledge selecting and training experts, establishing sensory analysis laboratory.
3. Be able to apply food quality knowledge selecting and training experts, establishing sensual analysis laboratory.
4. Be able characterise micro-organisms found in the food manufacturing environment; Be able to analyze and apply the Lithuanian and the EU requirements for food bussines; describe the principles of

the state control and corporate responsibility of food industries; Be able to analyze physiological and psychological factors that affect the sensory analysis.
5. Be able to determine the quality indicators for food raw materials and products, carry out nutritional energy value calculations and present the obtained results; carry out food sensory evaluation applying different sensory analysis methods and present the obtained results.
6. Be able control the technological process, identify risk factors (RF), critical control points (CCP), adapt the decision tree, establish critical limits and create flow charts.
7. Be able to design food production flow charts and apply technological parameters.
8. Be able to explain the metabolism in micro organisms, physiological processes and consequences, analyse and apply the standards, normative acts, safety and quality indexes for the raw and other materials, analyse the characteristics of sensory indexes.
9. Be able to analyse and apply general and mandatory standards requirements, standard setting procedures, evaluate the conformity of production with standards.
10. Be able to describe food safety and quality management principles, apply self regulation systems in food handling enterprises, analyse food products labelling requirements and control the quality of technological operations, analyse methods used in the sensory analysis.
11. Be able to apply the food safety and quality knowledge creating new and safe food products.
12. Be able to apply the safety requirements for the food production process.
13. Be able to cooperate, execute the scheduled operational tasks in the food enterprise, solve problems cooperating with food safety and nutrition specialists.

Syllabus

General requirements for food companies. Standards, technological regulation and mandatory quality requirements for the manufactured product or group of products.
The EU and Lithuanian legislation regulating animal and non-animal origin food production and processing. Control of the food chain "from farm to fork", and the responsibility of people participating in this chain (manufacturers/suppliers of raw materials, processors, distributors, consumers).
Hygiene norms in the Republic of Lithuania. Veterinary requirements for food companies. Sanitary and hygiene requirements for the production premises, other premises, company territory, waste management and pest control. Requirements for the staff personal hygiene, good hygiene practices (GHP), and good manufacturing practice (GMP).
Safety and quality requirements for food raw materials. Food additives and their importance in the production of food. Evaluation of the conformity of food products, food raw materials and semi-finished products with the food safety and quality indicators. Requirements for the storage, packaging and transportation of food products, food raw materials.
Hazar analysis and critical control points (HACCP) principles in food businesses. Risk assessment and corrective actions in the production process.
Food labeling requirements, and their legislation.
Preventive and corrective measures in the food production process. Detention of the products and withdrawal from the market.
Usage of micro organisms in food industry.
The importance of microbiological processes for food quality. Human's macrobiotics.
Morphology and classification principles of micro organisms. Diseases and their prophylaxis.
Reasons of food spoilage.
Sensory properties of food.
Psycho physiological basics of sensory evaluation.

Requirements for a sensory laboratory. Specifics of the sensory research.

Typology of sensory methods.

Search, selection, training and monitoring of experts.

Evaluation procedure of knowledge and abilities

The semester's individual work tasks are evaluated by grades; the final grade is given during the examination session while multiplying particular grades by the lever coefficient and summing the products.

The final grade: Control work; Portfolio with integrated tasks; Examination.