Transilvania University of Braşov, Romania
Study program: Processing systems and quality control of agri-food products

Faculty: Food and Tourism
Study period: 2 years (master)

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Modern techniques of milling and bakery	MTMB	6	2	0	2	0

Course description (Syllabus): Aditives and preservatives in bakery industries; new technologies in bakery industries; new control methods for bakery products.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Advanced processing of foods of animal origin	APFAO	5	2	0	2	0

Course description (Syllabus): Food preparation and preservation; Bovine and sheep breeding technologies; Technologies for raising pigs and poultry; Feed distribution systems for cattle and sheep; Feed distribution systems for pigs and poultry; Watering of animals; watering methods and water distribution systems on farms; Methods and techniques for evacuating manure from animal shelters; Poultry incubation; physical, chemical and technological requirements to artificial incubation; incubators and hatchers; Cows milking; requirements, technologies, specific milking facilities; Primary processing of milk; Final processing of milk (pasteurization, homogenization, sterilization); Obtaining the cream and butter; Slaughtering of animals; Techniques for meat processing and obtaining meat products; Smoking and storage of meat products.

Course title	Code	No. of credits	Number of hours per week			
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Fermentative food technologies	FFT	6	2	0	1	1

Course description (Syllabus): Brewing stages**;** Barley malting; Wort manufacture; Wort boiling; Wort fermentation; Beer filtration; General considerations regarding varieties of grapes used for wine; Quantitative and qualitative grape reception; Machines for unloading the grapes to wine cellar; Machinery for crushing grapes; Grapes pressing. General notions about the pressing process of grapes. General presentation of wine pots. Equipment for sparkling wine production. Factors that affect the longevity of wines; Wine flaws.

Course title	Code	No. of credits	Number of hours per week			
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Ethics and academic integrity II	EIA II	2	1	0	0	0

Course description (Syllabus): Academic writing: text, discourse writer, reader. Importance of ethics in scientific research. Drawing the reader's attention; Paraphrasing texts; Academic structures used in scientific texts I. Citing and combining cited sources; Academic structures used in scientific texts II. Organizing texts, extracting information, writing abstracts; Academic structures used in scientific texts III. Identifying sources to write scientific texts.; Using databases; Academic structures used in scientific texts IV. Writing references. Common referencing styles; Academic structures used in scientific texts V. Writing academic texts (technical reports, instructions, procedures, manuals); Academic structures used in scientific texts VI.

Course title	Code	No. of credits	Number of hours per week			
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Extractive food technologies	EFT	6	2	0	2	0

Course description (Syllabus): The course contains notions about the modern extractive methods and technologies used in food industry for sugar and vegetable oil production.

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Wastes and pesticides retention in plants and vegetal products	WPRPVP	5	2	0	1	-

Course description (Syllabus): Course description (Syllabus): Identification, description and specific concepts proper use of the plant protection science and vegetable products; The acquisition of knowledge about the chemicals to combat pests and diseases of plants and plant products; Production management, quality control plants and plant products in the health and environment protection;

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Expertise and authentication in food industry	EAFI	5	2	0	2	0

Course description (Syllabus): General aspects of the technical expertise; The management of expertise development in food industry; The management of the identification and evaluation of potential evasions; Aspects concerning the authentication of food products; Issues that generate the need to expertise and solving techniques.

Course title	Code	No. of credits	Number of hours per week			
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Marketing policies and strategies for food products	PSMPA	5	2	1	0	1

Course description (Syllabus): Market trends in food products marketing; consumer behavior; profiling food products consumers; the four Ps policies; food product strategies; promotion strategies for food products; pricing strategies for food products; market strategies for food products.

Course title	Code	No. of credits	Number of hours per week			
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Design and promotion of food products	DPFP	5	2	1	0	1

Course description (Syllabus): Design management food - General. Defining the main concepts of design and promotion of food products. Procedures of design and promotion of products.

Course title	Code	No. of credits	Number of hours per week			
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Food nutrients and ecologic reosurces for food products	FNERFP	5	2	0	1	0

Course description (Syllabus): The course presents: specific notions and elements in the field of chemical composition of food and nutrients; the main ecological natural resources containing biologically active substances with nutritional, antioxidant, digestive and stimulant properties; several natural resources for essential nutrients and compounds; specific for functional and dietary supplements; the importance of biologically active substances in food; the nutritional and energetic value of food

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Biotechnology of enzymatic preparations and starter cultures	BPECS	5	2	0	1	0

Course description (Syllabus): The general objective of the course is to study the production conditions, quality control and how to use in practice the information regarding the enzyme and starter cultures preparations

The course contents information and knowledge regarding: the production conditions, quality control and use in practice of several enzymes and starter cultures preparations modern, advanced conditions for obtaining and using enzyme preparations and starter cultures. Modern principles of obtaining, characterization, standardization, stabilization and commercialization enzyme preparations and starter cultures. practical applications of enzyme preparations and commercial starter cultures. the main technological processes of obtaining starter cultures and enzymatic preparations, with their physical-chemical, biochemical and microbiological bases technologies based on exploitation of biological activity of microorganisms and use of microbial metabolic products in different branches of food industry. The course make connections with other study subjects in order to deepen the theoretical profile, practical understanding of biochemical phenomena, all of which give graduates flexibility and adaptability based on a wide range of professional knowledge

Course title	Code	No. of credits	Number of hours per week			
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Recovery of by-products and waste from the food industry	DS	5	2	0	1	0

Course description (Syllabus): Important aspect approach: quality assurance and quality control, quality assurance instruments; modern control techniques in the food industry – generalities; technical enzymes as indicators of food quality; the use of biosensors as control techniques; immunochemical control techniques.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Modern control techniques in food industry	DS	5	2	0	1	0

Course description (Syllabus): The purpose of the discipline "Modern Control Techniques in Food Industry" is the design and promotion of food products and implementation of control strategies: description and use of concepts, theories and basic methods concerning the process control and facilities operation in the agri-food chain; explanation and interpretation of concepts, methods and models of primary engineering control issues in the food industry; application of basic engineering principles and methods for solving technological problems in the agri-food chain. Important aspect approach: quality assurance and quality control, quality assurance instruments; modern control techniques in the food industry – generalities; technical enzymes as indicators of food quality; the use of biosensors as control techniques; immunochemical control techniques; polarimetry.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Traceability of agri-food products	DAC	6	2	0	2	0

Course description (Syllabus): Principles , laws and rules of traceability concept in agrifood products(including traditional Romanian products). National and EU institutions and regulations involved in traceability concept.The background of developing a traditional products" industry"based on traditional food technologies. The graduated students will be able to be integrated in the real business activity and local communities(different levels of decisions) and they will act as important actors in environmental protection.

Course title	Code	No. of credits	Number of hours per week			
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Expertise procedures by laboratory testing of agricultural products and foodstuffs	DAC	6	2	0	2	0

Course description (Syllabus): By teaching expertise by laboratory testing of agricultural products and foodstuffs, master students will be able to guidance in what concerns the acceptability of the premises of the manufacturing, storage, transportation, handling and distribution, and based on food safety to impose a limit above which a foodstuff should be considered unacceptably contaminated

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European food quality management in the context of food security	DAC	6	2	0	2	0

Course description (Syllabus): Definition and objectives of food in the European context of food security; Lab norms of milk, meat, fish, exam; Cans and semicans- European Norms of laboratory examination; Fresh and refrigerated aquaculture products - laboratory test; Bread and bakery products laboratory test; Parasites that grow on foods – laboratory methods on identifying these parasites and parasitic food management measures

Course title	Code	No. of credits	Number of hours per week			
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Management of additives and food flavors	DAC	6	2	0	2	0

Course description (Syllabus): Role, legislation, description, use of the food additives and ingredients; toxicity of food additives; role, legislation, description, use of aromas, flavors, imitations of fat, enzymatic preparations, dietary fibers and other ingredients in food; possibilities of replacement synthetic additives and flavors.

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Auditing of Analysis Systems of Risk in Food Industry	DAC	6	2	0	2	0

Course description (Syllabus): History, principles and EU legislation of HACCP; General hygiene requirements: premises and trial proceedings in food industry; Preparatory stage; HACCP management, description of workflow process, the verification process flow.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Modern technicques of advanced processing of preservation of agri-food products	DAC	6	2	0	1	0

Course description (Syllabus): Explanation and interpretation of concepts, methods and models of primary engineering control issues in the food industry; application of basic engineering principles and methods for solving technological problems in the agri-food chain.

Course title	Code	No. of credits	Number of hours per week			
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Conditioning of vegetal agricultural products	DAC	6	2	0	1	0

Course description (Syllabus): The course presents the conditioning flow of fruit and vegetables from harvesting to storage. Also aspects regarding the mechanical damages correlated with quality loos are presented.