FACULTY OF FOOD ENGINEERING

CURRICULUM 2020-2021

Dean
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BACHELOR DEGREE

FOOD PRODUCTS CONTROL AND EXPERTISE/FOOD PRODUCTS ENGINEERING/CONSUMER AND ENVIRONMENTAL PROTECTION - 1st and 2nd year

Class code	Course	Semester (Autumn A/Spring S)/Year of study	Hours/week		ECTS	Description
			C	S/L/P		
DF.01.01	Mathematical analysis	A/1	2	2 S	5	A systematic study of concepts basic to calculus, such as limits and continuity, differentiation rules, introduction into multivariable calculus, including partial derivatives, techniques of integration and applications (area, volume, arc length), improper integrals, convergence of sequences and series of functions.
DF.01.02	Physics (1)	A/1	2	2 L	4	The overall aim of the Physics course is to produce a succinct summary of physics and provide the students with an introduction of the basic physical principles. This course will serve as an excellent background to students and it will serve as foundation to deal with more advanced and specific problems, required for the other courses. This course consists of fundamentals and applications and students should be familiar with the basic principles of mechanics, thermodynamics, molecular physics, electricity, electromagnetism, optics, nuclear physics. Laboratory attendance is compulsory.

DF.01.03	Inorganic chemistry	A/1	3	2 L	5	Inorganic chemistry is a base for chemistry studies. Applications of this branch are multiple and notions at different levels are necessary for all workers in Food Industry, from engineers to laborers. Fundamental principles and rules of chemistry are necessary for understanding the systems in real world, the basic construction of the matter and also help the student to think and work in a rigor manner. The inorganic chemistry course treats the substances and their properties, transformation of the substances through chemical reactions, natural phenomena. Atoms and molecules and periodic table of elements are the introductory notions. Chemical bonds explain the structure of the matter and chemical reactions. Metals, semimetals and nonmetals with their principal properties complete the course. Some experiments are designed in laboratory to train the students in practice activity. The specific laboratory equipment knowledge will be a useful tool for students in their future work in industry.
DF.01.04	Analytical chemistry (1)	A/1	3	2 L	5	Analytical chemistry studies and uses instruments and methods used to separate, identify, and quantify matter. The course presents two part: inthe first semester the qualitative analysis of cations and anions and semester 2: the pH definition and acid base titrations, indicators used, the redox titration, titration with complexion reactions, titration by precipitation reaction. The food cations analysis are focused on milk and dairy products, meat and meat products, fish and fish products, honey, alcoholic drinks, grains, chocolate, tea and condiments.
DF.01.05	Applied informatics	A/1	1	2 L	4	The Applied Informatics course is addressed to the 1st year students of the IPA, CEPA and PCM undergraduate programs. The theoretical and practical support regarding the applications of the Microsoft Office Suite is presented.
DC.01.06	Discourse analysis	A/1	-	2 S	4	Discourse Analysis aims at getting the student familiarized with notions and concepts such as communicative event, speech acts, coherent sequences of sentences, conversation.

DC.01.07	Foreign language – English (1)	A/1	-	2 S	3	The most important aspect of this seminar is the opportunity it gives the student to discuss grammar and vocabulary in context, to develop speaking and writing skills and acquire technical terminology specific to the field of food engineering.
DC.01.08	Sports (1)	A/1	-	1 S	1	In practical work find content specific learning units gymnastics, athletics, and team sports. From basic gymnastics using specific means of health education and general harmonious physical development and training of athletic exercises of the body to maintain a sustained effort.
DF.02.09	Linear algebra, analytical and differential geometry	S/2	2	1 S	4	Aftercompletingthiscourse, studentsshouldhavedeveloped a clearunderstanding of vector spaces, linear maps,determinants, cartesian coordinates in 2 and 3 dimensional spaces, equations of lines and planes, conics, local theory of curves and surfaces.
DF.02.10	Probability theory and mathematical statistics	S/2	1	1 S	3	After completing this course, students should have developed a clear understanding of basic probability concepts (events, axioms for probabilities, conditional probabilities) and statistical concepts, with emphasis on understanding and interpretation of statistical information.
DF.02.11	Physics (2)	S/2	2	1 L	4	The overall aim of the Physics course is to produce a succinct summary of physics and provide the students with an introduction of the basic physical principles. This course will serve as an excellent background to students and it will serve as foundation to deal with more advanced and specific problems, required for the other courses. This course consists of fundamentals and applications and students should be familiar with the basic principles of mechanics, thermodynamics, molecular physics, electricity, electromagnetism, optics, nuclear physics. Laboratory attendance is compulsory.
DF.02.12	Organic chemistry	S/2	3	2 L	5	Study of the organic compounds, their physicochemical properties, uses and application of methods and techniques for theidentification and / or dosing of important organic compounds for the food industry.

DF.02.13	Analytical chemistry (2)	S/2	2	2 L	4	Analytical chemistry studies and uses instruments and methods used to separate, identify, and quantify matter. The course presents two part: inthe first semester the qualitative analysis of cations and anions and semester 2: the pH definition and acid base titrations, indicators used, the redox titration, titration with complexion reactions, titration by precipitation reaction. The food cations analysis are focused on milk and dairy products, meat and meat products, fish and fish products, honey, alcoholic drinks, grains, chocolate, tea and condiments
DF.02.14	Computer assisted graphics	S/2	1	2 L	4	The Computer-aided graphics course is addressed to the 1st year students of the IPA, CEPA and PCM undergraduate programs. The theoretical and practical concepts of using Autodesk Inventor software in computer-aided design are presented.
DD.02.15	Global policies and strategies in food security	S/2	2	1 S	3	Deepen knowledge of policy decisions on global food security, community natural resources and their monitoring methods.
DC.02.16	Foreign language – English (2)	S/2	-	2 S	3	The most important aspect of this seminar is the opportunity it gives the student to discuss grammar and vocabulary in context, to develop speaking and writing skills and acquire technical terminology specific to the field of food engineering.
DC.02.17	Sports (2)	S/2	-	1 S	1	In practical work find content specific learning units gymnastics, athletics, and team sports. From basic gymnastics using specific means of health education and general harmonious physical development and training of athletic exercises of the body to maintain a sustained effort.
DF.03.01	Physical chemistry (1)	A/3	2	1 L	4	Physical chemistry concerned with the interpretation of the phenomena of chemistry in terms of the underlying principles of physics is traditionally and includes the following chapters: Thermodynamics, Equilibrium, Kinetics, Catalysis, and Electrochemistry.
DS.03.01	Corrosion and anticorrosion protection	A/3	2	1 L	4	Corrosion and anticorrosion protection concerned with the interpretation of the phenomena of chemistry that includes the following chapters: Thermodynamics, Equilibrium, Kinetics, Catalysis, and Electrochemistry

DD.03.02	Biochemistry	A/3	2	2 L	5	Biochemistry seeks to create the framework for students to acquirespecialized disciplines in the higher years, providing them with knowledgeabout the biochemical components of living organisms and raw materialsused in the food industry and the transformations undergone during processing.
DD.03.03	General microbiology	A/3	3	3 L	5	The main objective of this course is the study of the implication of the presence of microorganisms in the main food of animal and vegetal origin, the knowledge of the way of action and the modifications that these microorganisms produce in food, as well as the study of the methods of investigation and their identification.
DS.03.04	Methods and techniques of instrumental analysis I	A/3	2	1 L	4	The objective of this discipline is to give the student an overview of the modern methods of instrumental analysis (Refractometry, Polarimetry, Chromatography, Electrochemical Methods, Turbidimetry, Nefelometry, Thermal Analysis, Gravimetry) intended for food control in accordance with the European requirements in this field.
DD.03.05	Elements of mechanical engineering	A/3	2	1 L	4	The course provides students with basic notions of mechanical engineeringas well as knowledge of maincomponents and machine parts, theiroperational mode,with real applications from industry of food productsprocessing. Seminar attendance is compulsory.
DC.03.06	Foreign language – English III	A/3	-	1 S	3	The most important aspect of this seminar is the opportunity it gives the student to discuss grammar and vocabulary in context, to develop speaking and writing skills and acquire technical terminology specific to the field of food engineering.
DC.03.07	Sports III	A/3	-	1 S	1	In practical work find content specific learning units gymnastics, athletics, and team sports. From basic gymnastics using specific means of health education and general harmonious physical development and training of athletic exercises of the body to maintain a sustained effort.
DS.04.18	Epidemiology and public health	A/3	2	2 P	4	The general objective of the discipline includes notions necessary for the measurement and analysis of some aspects of community health, notions regarding health promotion and preventive strategies, epidemiological methods in public health.

DF.04.08	Physical chemistry (2)	S/4	2	2 L	4	Physical chemistry concerned with the interpretation of the phenomena of chemistry in terms of the underlying principles of physics is traditionally and includes the following chapters: Thermodynamics, Equilibrium, Kinetics, Catalysis, and Electrochemistry.
DD.04.09	Food chemistry	S/4	2	2 L	4	Food chemistry discipline includes essential basic notions about the chemical composition of raw material and food, both of animal and plant origin, changes occurring during processing and reflecting these changes in the quality of the finished product.
DS.04.10	Special microbiology	S/4	3	3 L	6	The main objective of this course is the study of the implication of the presence of microorganisms in the main food of animal and vegetal origin, the knowledge of the way of action and the modifications that these microorganisms produce in food, as well as the study of the methods of investigation and their identification.
DS.04.11	Methods and techniques of instrumental analysis (2)	S/4	2	3 L	5	The objective of this discipline is to give the student an overview of the modern methods of instrumental analysis (Refractometry, Polarimetry, Chromatography, Electrochemical Methods, Turbidimetry, Nefelometry, Thermal Analysis, Gravimetry) intended for food control in accordance with the European requirements in this field.
DD.04.12	Elements of electric engineering	S/4	2	2 L	4	The goal of this course is to provide students with fundamental knowledgeof electrical engineering elements to get students familiarized with the main electrotehnic devices, electrical circuits and machines. Practicallaboratory works provide information regarding electrical components andmachines used in the food industry processes.
DC.04.13	Foreign language – English IV	S/4	-	2 S	3	The most important aspect of this seminar is the opportunity it gives the student to discuss grammar and vocabulary in context, to develop speaking and writing skills and acquire technical terminology specific to the field of food engineering.
DC.04.14	Sports IV	S/4	-	1 S	1	In practical work find content specific learning units gymnastics, athletics, and team sports. From basic gymnastics using specific means of health education and general harmonious physical development and

						training of athletic exercises of the body to maintain a sustained effort.
DS.04.17	Technology of wine, vinegar and distilled beverages	S/4	2	2 L	4	The alcoholic drinks market is broadly classified into five classes, starting from beers, wines, hard liquors, liqueurs and others. Similarly nonalcoholic drinks market is broadly classified into carbonated drinks, non-carbonated drinks and hot beverages. These include juices, energy drinks, carbonated drinks, tea, coffee and bottled water. The course presents technologies for still and sparkling wines, fruit distillates, wine distillate, utilizing by-products of the wine industry, natural juices and fruit nectars, mineral waters. Alcoholic and malolactic fermentation are presented in the wine industry.

FOOD PRODUCTS CONTROL AND EXPERTISE - 3rd year

Class code	Course	Semester (Autumn A/Spring S)/Year of study	Hours/week		ECTS	Description
			C	S/L/P		
DD.05.01	Unitary operations in food industries (1)	A/5	2	2 S	5	The unitary operations in the food industry deal with the study of the operations that take place with the heat transfer and the corresponding equipment. General knowledge about heat transfer, heat balancing, heat exchangers, evaporation, condensation, drying, distillation and related equipment are studied.
DD.05.02	General technologies in food industry I	A/5	2	1 L 1P	4	The General Technologies course provides knowledge on the production of meat and milk products. Technological schemes and conditions for processing raw material into a finished product, complete course content. The finished product is characterized in terms of sensory and physical-chemical
DS.05.04	Quality control of vegetal products	A/5	2	1 L	4	The course focuses mainly on the quality characteristics of fruits, vegetables, oil and cereals as raw materials in food industry.

DD.05.05	Principles of human nutrition	A/5	2	1 S	5	The general objective of the discipline is to acquire and capitalize on the concepts of the physiological and beneficial effects of food and food components, capable of ensuring good health and preventing illnesses. The subjects will be: General nutrition as a health factor, Nutrients and their role in nutrition, Food groups and nutritional value of food groups.
DS.06.09	Quality control of animal products	S/6	2	2 L	4	The course focuses mainly on the quality characteristics of meat, milk, fish and eggs as raw materials in food industry.
DD.06.06	Unitary operations in food industries (2)	S/6	2	1 S + 2 P	5	The unitary operations in the food industry deal with the study of the operations that take place with the heat transfer and the corresponding equipment. General knowledge about heat transfer, heat balancing, heat exchangers, evaporation, condensation, drying, distillation and related equipment are studied.
DD.06.07	General technologies in food industry (2)	S/6	2	1 L + 1P	4	The General Technologies course provides knowledge on the production of meat and milk products. Technological schemes and conditions for processing raw material into a finished product, complete course content. The finished product is characterized in terms of sensory and physical-chemical
DD.06.10	Principles and conservation methods of food products	S/6	2	1 L	3	Course content Principles and methods of food preservation aims to go through classical and modern methods for the conservation of raw materials and the finished product. Conservation can keep sensory characteristics, physicochemical and microbiological products for preservation. Reference is made to significantly alter the taste of the methods by comparison with the methods that have preserved the taste of canned products
DS.06.18	Science of commodities	A/5	2	1 L	3	Science of commodities it focuses mainly on the study of the value of use and of those properties of the food products that satisfy their functions. The organoleptic, physical, chemical and biological properties of food products as well as their changes on the producer-consumer circuit are studied.

CONSUMER AND ENVIRONMENTAL PROTECTION - 3rd year

Class code	Course	Semester (Autumn A/Spring S)/Year of study	Hours/week		ECTS	Description
			C	S/L/P		
DD.05.01	Unitary operations in food industry (1)	A/5	2	2 S	4	The unitary operations in the food industry deal with the study of the operations that take place with the heat transfer and the corresponding equipment. General knowledge about heat transfer, heat balancing, heat exchangers, evaporation, condensation, drying, distillation and related equipment are studied.
DD.05.05	Principles of human nutrition	A/5	2	1 S	4	The general objective of the discipline is to acquire and capitalize on the concepts of the physiological and beneficial effects of food and food components, capable of ensuring good health and preventing illnesses. The subjects will be: General nutrition as a health factor, Nutrients and their role in nutrition, Food groups and nutritional value of food groups.
DS.05.14	Safety and food security in consumer protection (1)	A/5	2	2 S	4	Knowing and applying knowledge about food and nutrition and food safety is a matter requiring rigorous and scientific abstraction.
DD.06.06	Unitary operations in food industry (2)	S/6	2	1 S + 2 P	5	The unitary operations in the food industry deal with the study of the operations that take place with the heat transfer and the corresponding equipment. General knowledge about heat transfer, heat balancing, heat exchangers, evaporation, condensation, drying, distillation and related equipment are studied.
DD.06.10	Principles and methods of food conservation	S/6	2	2 L	4	Course content Principles and methods of food preservation aims to gothrough classical and modern methods for the conservation of raw materialsand the finished product. Conservation can keep sensory characteristics, physicochemical and microbiological products for preservation. Referenceis made to significantly alter the taste of the methods by comparison withthe methods that have preserved the taste of canned products.

DD.06.08	General technologies in food industry (2)	S/6	2	1 L + 1 P	4	The General Technologies course provides knowledge on the production ofmeat and milk products. Technological schemes and conditions forprocessing raw material into a finished product, complete course content.The finished product is characterized in terms of sensory andphysical-chemical.
DS.06.18	Safety and food security in consumer protection (2)	S/6	2	2 S	4	Knowing and applying knowledge about food and nutrition and food safety is a matter requiring rigorous and scientific abstraction.

FOOD PRODUCTS ENGINEERING - 3rd year

Class code	Course	Semester (Autumn A/Spring S)/Year of study	Hours/week		ECTS	Description
			C	S/L/P		
DD.05.01	Unitary operations in food industries (1)	A/5	2	1 S	3	The unitary operations in the food industry deal with the study of the operations that take place with the heat transfer and the corresponding equipment. General knowledge about heat transfer, heat balancing, heat exchangers, evaporation, condensation, drying, distillation and related equipment are studied.
DD.05.04	Principles of human nutrition	A/5	2	1 S	5	The general objective of the discipline is to acquire and capitalize on the concepts of the physiological and beneficial effects of food and food components, capable of ensuring good health and preventing illnesses. The subjects will be: General nutrition as a health factor, Nutrients and their role in nutrition, Food groups and nutritional value of food groups.
DS.05.09	Technology in meat industry (1)	A/5	2	1 L	4	The course covers the description of animal slaughtering technology, the meat structure and its chemical composition
DD.06.05	Unitary operations in food industries (2)	S/6	2	1S+2L	5	The unitary operations in the food industry deal with the study of the operations that take place with the heat transfer and the corresponding equipment. General knowledge about heat transfer, heat balancing, heat

						exchangers, evaporation, condensation, drying, distillation and related equipment are studied.
DS.06.17	Technology in meat industry (2)	S/6	2	1L+1P	3	The course includes a description of the technologies for obtaining different meat products

FOOD PRODUCTS CONTROL AND EXPERTISE - 4th year

Class code	Course	Semester (Autumn A/Spring S)/Year of study	Hours/week		ECTS	Description
			C	S/L/P		
DD.07.01	Additives and ingredients in food industry	A/7	3	2 L	6	Food additives deals with the substances added to food to preserve flavor or enhance its taste, appearance, or other qualities. Food additives are divided into several groups, although some additives exert more than one effect:Acidulates, Acidity regulators, Anticaking agents, Antifoaming and foaming agents, Antioxidants, Bulking agents, Food coloring, Fortifying agents, Emulsifiers, Flavors, Flavor enhancers, Flour treatment agents, Preservatives, Stabilizers, Sweeteners, Thickeners, Packaging.
DD.07.06	Legislation and consumer protection (1)	A/7	2	2 S	4	The general knowledge about National and Community normative acts; the knowledge of institutions (both European and Romanian) with competence in the safety of the food system; the knowledge of the staff's competence who is responsible of supervision of the safety and health of the consumers.
DS.07.02	Quality providing systems (1)	A/7	2	1 S	4	Quality management systems, HACCP
DS.08.16	Food control and expertise and fake tracking	S/8	2	2 L	5	Adulteration of milk and dairy products, meat, honey, wine
DD.08.12	Legislation and consumer protection (2)	S/8	2	2 S	4	The general knowledge about National and Community normative acts; the knowledge of

						institutions (both European and Romanian) with competence in the safety of the food system; the knowledge of the staff's competence who is responsible of supervision of the safety and health of the consumers.
DS.08.09	Quality providing systems (2)	S/8	2	1P	3	Quality management systems, HACCP (2)
DC.08.13	Pragmatics and communication	S/8		2 S	3	Pragmatics and Communication approaches communication from the pragmatic point of view, referring to the relations between signs and those who use them. It emphasizes the importance of language in the process of efficient communication.

CONSUMER AND ENVIRONMENTAL PROTECTION - 4th year

Class code	Course	Semester (Autumn A/Spring S)/Year of study	Hours/week		ECTS	Description
			C	S/L/P		
DD.07.01	Additives and ingredients in food industry	A/7	3	2 L	5	Food additives deals with the substances added to food to preserve flavor or enhance its taste, appearance, or other qualities. Food additives are divided into several groups, although some additives exert more than one effect:Acidulates, Acidity regulators, Anticaking agents, Antifoaming and foaming agents, Antioxidants, Bulking agents, Food coloring, Fortifying agents, Emulsifiers, Flavors, Flavor enhancers, Flour treatment agents, Preservatives, Stabilizers, Sweeteners, Thickeners, Packaging.
DS.07.16	Methodology of impact studies (1)	A/7	2	1 S	4	The objectives of ENVIRONMENTAL IMPACT ASSESSMENT course is to define theapplication domain and the characteristics of the environmental and healthimpact assessment process by understand the EIA structures and legislation(EU and in Romania, understand the purpose and role of EIA indecision-making processes, by learning the EIA stages and by evaluate thecontribution of EIA to the environment.

DS.08.07	Food authentication and counterfeits distinguish	S/8	2	1 L	3	Adulteration of milk and dairy products, meat, honey, wine
DS.08.18	Methodology of impact studies (2)	S/8	1	1 S	3	The objectives of the course is to define the application domain and the characteristics of the environmental and healthimpact assessment process by understand the EIA structures and legislation(EU and in Romania, understand the purpose and role of EIA indecision-making processes, by learning the EIA stages and by evaluate thecontribution of EIA to the environment.
DC.08.12	Pragmatic and communication	S/8		2 S	3	Pragmatics and Communication approaches communication from the pragmatic point of view, referring to the relations between signs and those who use them. It emphasizes the importance of language in the process of efficient communication.

FOOD PRODUCTS ENGINEERING - 4th year

Class code	Course	Semester (Autumn A/Spring S)/Year of study	Hours/week		ECTS	Description
			C	S/L/P		
DD.07.01	Additives and ingredients in food industry	A/7	3	2 L	6	Food additives deals with the substances added to food to preserve flavor or enhance its taste, appearance, or other qualities. Food additives are divided into several groups, although some additives exert more than one effect:Acidulates, Acidity regulators, Anticaking agents, Antifoaming and foaming agents, Antioxidants, Bulking agents, Food coloring, Fortifying agents, Emulsifiers, Flavors, Flavor enhancers, Flour treatment agents, Preservatives, Stabilizers, Sweeteners, Thickeners, Packaging.
DD.07.04	Legislation and consumer protection (1)	A/7	2	2 S	4	The general knowledge about National and Community normative acts; the knowledge of institutions (both European and Romanian) with competence in the safety of the food system; the knowledge of the staff's

						competence who is responsible of supervision of the safety and health of the consumers.
DS.07.14	Quality providing systems	A/7	2	1 S	5	Quality management systems, HACCP
DS.08.07	Technology of public food products	S/8	1	1 L	2	The course is intended to provide a general knowledge of the types, structure, staff and activities of food service units, and food service and catering technology, being analyzed the main groups of culinary products and pastry-confectionery.
DD.08.010	Legislation and consumer protection (2)	S/8	2	2 S	4	The general knowledge about National and Community normative acts; the knowledge of institutions (both European and Romanian) with competence in the safety of the food system; the knowledge of the staff's competence who is responsible of supervision of the safety and health of the consumers.

MASTER DEGREE
ENVIRONMENT SECURITY MANAGEMENT AND FOOD SAFETY

Class code	Course	Semester (Autumn A/Spring S)/Year of study	Hours/week		ECTS	Description
			C	S/L/P		
DAP.01.01	Modern methods of instrumental analysis (1)	A/1	2	1 L	7	The objective of this discipline is to give the student master an overview of the modern methods of instrumental analysis (Refractometry, Polarimetry, Chromatography, Electrochemical Methods, Turbidimetry, Nefelometry, Thermal Analysis, Gravimetry) intended for food control in accordance with the European requirements in this field.
DAP.01.02	Audit, certification and quality management costs	A/1	1	2 P	6	The course provides students notions about stages of the process of achieving an audit program, certification and ways to optimize quality costs
DSI.01.04	Food contaminants	A/1	1	1 L	7	Food contaminants deals with the substances that contaminate food products. Chemical contaminants can be classified according to the source of contamination

						and the mechanism by which they enter the food product.
DAP.02.06	Modern methods of instrumental analysis (2)	S/2	2	1 L	7	The objective of this discipline is to give the student master an overview of the modern methods of instrumental analysis (Refractometry, Polarimetry, Chromatography, Electrochemical Methods, Turbidimetry, Nefelometry, Thermal Analysis, Gravimetry) intended for food control in accordance with the European requirements in this field.
DSI.02.07	Modern methods of food microbiological control	S/2	2	2 L	8	Food pathogens rapid detection methods in food diagnostics. Offer a comprehensive array of analytical tools to identify unwanted microbiological contamination issues.
DAP.02.08	Life cycle assessment of products	S/2	2	1 L	7	Life-cycle analysis is a technique to assess environmental impacts associated with all the stages of a product's life from raw material extraction through materials processing, manufacture, distribution, use, repair and maintenance, and disposal or recycling. Designers use this process to help critique their products
DAP.03.01.	Functional Ingredients	A/3	2	1 L	7	The objective of the discipline is to make contributions in the field of food additives to the knowledge, understanding the basic concepts, theories and methods regarding natural food extracts and additives, and their proper use, respectively the use of basic knowledge.
DAP.03.02.	Total quality management	A/3	2	1 S	6	The concept of quality and total quality is defined and addressed, as well as the quality management and total quality. Describe the basics of ISO standards, quality management functions, implementation strategies, documents and tools of total quality management. Finally, there are some basic elements regarding quality assurance systems and certification of products, services and processes.
DSI.03.04.	Systems of environment monitoring	A/3	1	2 S	6	Obtaining basic knowledge on the classification, principles, performance and use of environmental quality monitoring systems.
DSI.03.06.	Waste in food industry	A/3	2	1 S	6	Knowing the principles and methods of capitalization as much as possible high levels of useful substances

						from the secondary materials produced in the food industry.

MASTER DEGREE
FOOD PRODUCTS CONTROL AND EXPERTISE

Class code	Course	Semester (Autumn A/Spring S)/Year of study	Hours/week		ECTS	Description
			C	S/L/P		
DAP.01.01	Modern methods of instrumental analysis (1)	A/1	2	1 L	7	The objective of this discipline is to give the student master an overview of the modern methods of instrumental analysis (Refractometry, Polarimetry, Chromatography, Electrochemical Methods, Turbidimetry, Nefelometry, Thermal Analysis, Gravimetry) intended for food control in accordance with the European requirements in this field.
DSI.01.02	Food contaminants	A/1	2	1 L	7	Food contaminants deals with the substances that contaminate food products. Chemical contaminants can be classified according to the source of contamination and the mechanism by which they enter the food product.
DSI.01.04	Total quality management	A/1	1	1 S	4	The concept of quality and total quality is defined and addressed, as well as the quality management and total quality. Describe the basics of ISO standards, quality management functions, implementation strategies, documents and tools of total quality management. Finally, there are some basic elements regarding quality assurance systems and certification of products, services and processes.
DSI.01.09	Modern methods of control of food microbiology	A/1	1	2 L	6	The main objective of this course is the study of the implication of the presence of microorganisms in the main food of animal and vegetal origin, the knowledge of the way of action and the modifications that these microorganisms produce in food, as well as the study of the methods of investigation and their identification.

DAP.02.06	Modern methods of instrumental analysis (2)	S/2	2	1 L	7	The objective of this discipline is to give the student master an overview of the modern methods of instrumental analysis (Refractometry, Polarimetry, Chromatography, Electrochemical Methods, Turbidimetry, Nefelometry, Thermal Analysis, Gravimetry) intended for food control in accordance with the European requirements in this field.
DAP.03.02	Mathematic modeling of experiment	A/3	2	2 L	8	After completing this course, students should have developed a clear understanding of statistical concepts, with emphasis on understanding and interpretation of statistical information.
DSI.03.03.	Functional properties of food additives	A/3	2	2 L	9	The objective of the discipline is to make contributions in the field of food additives to the knowledge, understanding the basic concepts, theories and methods regarding natural food extracts and additives, and their proper use, respectively the use of basic knowledge.
DSI.03.04.	Designing and promoting new products	A/3	2	2 P	8	Knowing the concept of a new product, acquiring specific terms and a interdisciplinary notions. Conceiving and conducting a research and development department. Developing a new product, mastering the techniques of scientific elaboration of a new products

MASTER DEGREE
HYGIENE MANAGEMENT, QUALITY CONTROL OF FOOD PRODUCTS AND POPULATIONS HEALTH ASSURANCE

Class code	**Course**	**Semester (Autumn A/Spring S)/Year of study**	**Hours/week**		**ECTS**	**Description**
			C	**S/L/P**		
DAP.01.01	Modern methods of instrumental analysis (1)	A/1	2	1 L	7	The objective of this discipline is to give the student master an overview of the modern methods of instrumental analysis (Refractometry, Polarimetry, Chromatography, Electrochemical Methods, Turbidimetry, Nefelometry, Thermal Analysis, Gravimetry) intended for food control in accordance with the European requirements in this field.

DSI.01.02	Food risk factors in human nutrition	A/1	1	2 S	5	The subjects will be: General nutrition as a health factor, Nutrients and their role in nutrition, Food groups and nutritional value of food groups.
DSI.01.04	Food chemical contaminants	A/1	2	1 L	7	Food contaminants deals with the substances that contaminate food products. Chemical contaminants can be classified according to the source of contamination and the mechanism by which they enter the food product.
DAP.01.05	Food hygiene	A/1	1	1 S	5	Know and apply legislation in the field - mandatory condition for producers in the food industry. Know and comply with the hygiene requirements for the operation of units with food profile and for the production of safe foods for public health (human consumption).
DAP.02.06	Effects of toxic substance consumption and abuse	S/2	1	2 S	7	Using basic knowledge to explain and interrelate a variety of concepts, situations, processes, projects, etc. associated with the domain
DSI.02.07	Microbiological contaminants of food	S/2	2	1 L	7	The main objective of this course is the study of the implication of the presence of microorganisms in the main food of animal and vegetal origin, the knowledge of the way of action and the modifications that these microorganisms produce in food, as well as the study of the methods of investigation and their identification.
DSI.02.08	Applied statistics	S/2	1	2 L	6	After completing this course, students should have developed a clear understanding of statistical concepts, with emphasis on understanding and interpretation of statistical information.
DSI.03.01.	Functional ingredients	A/3	2	1 L	6	After completing this course, students should have developed a clear understanding of statistical concepts, with emphasis on understanding and interpretation of statistical information.
DAP.03.02	Audit, certification, and quality management	A/3	2	1 P	7	Knowing the concept of a new product, acquiring specific terms and a interdisciplinary notions. Conceiving and conducting a research and development department. Developing a new product, mastering the techniques of scientific elaboration of a new products