MASTER PROGRAM IN FOOD TECHNOLOGY

Training program	**Master program in Food Technology**
Code	**8540101**
Coordinating unit	**College of Agriculture**
Objectives	The overall objective of the programme is to provide multi-disciplinary and specialized professional training in food technology, with the emphasis on postharvest and food preservation engineering on the one hand and food science and technology on the other hand, to equip future personnel with the technical and managerial knowledge, skills and attitudes which they require to contribute successfully to solving problems related to food security through the production of safe foods of high quality.
Expected learning outcomes (ELO)	
ELO.1	Has profound and detailed scientific knowledge and understanding of the (bio)chemical processes in biological raw materials during postharvest storage and their transformation into food products.
ELO.2	Has profound and detailed scientific knowledge and understanding of engineering principles of unit operations and their use in the transformation of raw materials into food products as a basis for qualitative and quantitative design, evaluation and optimization of food process and preservation unit operations.
ELO.3	Has profound and detailed scientific knowledge and understanding of ecology, physiology, detection, use and combat of microorganisms in raw materials during postharvest storage and their transformation into food products.
ELO.4	Has profound and detailed scientific knowledge and understanding of (bio)chemical, physical and microbiological methods for analysis of raw materials and foods including the skills to identify and use such methods in the context of research, process and product design and optimization and food control.
ELO.5	Has profound and detailed scientific knowledge in different fields of product technology such as fruit and vegetable products, dairy products, aquatic food products, cereal derived products and fermented products including aspects of product development in relation to consumer behavior.
ELO.6	Can critically evaluate the functionality and safety of foods in the context of human health including the relation with raw materials, their postharvest storage and processing into foods based on analytical data and scientific literature data.
ELO.7	Masters the skills and has acquired the problem solving capacity to analyze issues of food quality and safety along the food chain and to elaborate interdisciplinary and integrated qualitative and quantitative approaches and solutions including their implementation.
ELO.8	Has acquired a broad perspective to problems of food security, related to postharvest and food processing.

ELO.9	Can demonstrate critical consideration of and reflection on known and new theories, models or interpretation within the broad field of food technology.
ELO.10	Can identify and apply appropriate research methods and techniques to design, plan and execute targeted experiments or simulations independently and critically evaluate and interpret the collected data.
ELO.11	Can develop and execute independently original scientific research and/or apply innovative ideas within research environments to create new and/or improved insights and/or solutions for complex (multi)disciplinary research questions respecting the results of other researchers.
ELO.12	Can convincingly and professionally communicate personal research, thoughts, ideas, and opinions of proposals, both written and oral, to different actors and stakeholders from peers to a general public.
ELO.13	Has acquired project management skills to act independently and in a multidisciplinary team as team member or team leader in international and intercultural settings.

No	Course code	Course	Total cred	Theory (hours)	Practice (hours)
		Pre-master English	15		
Compulsory courses (32)					
1.	FT601	Scientific research methodology	2	20	20
2.	FT602	Applied statistics	3	30	30
3.	FT603	Food microbiology and analysis	3	30	30
4.	FT604	Food chemistry and analysis	3	30	30
5.	FT605	Human nutrition	2	30	0
6.	FT606	Food processing	3	30	30
7.	FT607	Thermal processing of foods	4	45	30
8.	FT608	Low temperature processing of foods	3	30	30
9.	FT609	Engineering properties of biological materials	3	30	30
10.	FT610	Transport phenomena and engineering kinetics	3	30	30
11.	FT611	Internship	3	0	90
Optional courses (8 in the second year)					
12.	FT612	Sensory science	2	30	0
13.	FT613	Food quality and safety management	2	20	20

No	Course code	Course	Total cred	Theory (hours)	Practice (hours)
		workshop			
14.	FT614	PCM workshop	2	15	30
15.	FT615	Food packaging	2	30	
16.	FT616	Management and marketing in agri-food sector	2	30	
17.	FT617	Advanced statistics	2	30	
Optional specialized courses (5 in the second year)					
- *Major in fruit and vegetable based products (5)*					
18.	FT618	Postharvest technology of fruits and vegetable	3	30	30
19.	FT619	Fruit and vegetable science and technology	2	30	
- *Major in animal product technology (5)*					
20.	FT620	Dairy science and technology	3	30	30
21.	FT621	Food fermentation technology	2	30	
- *Major in seafood technology (5)*					
22.	FT622	Aquatic raw material handling and processing technology	3	30	30
23.	FT623	Ingredients from aquatic resources for the bio-industries	2	30	
- *Major in cereal technology (5)*					
24.	FT624	Post-harvest technology of cereals	3	30	30
25.	FT625	Cereal science and technology	2	30	
26.	FT900	MSc thesis	**15**		
		Total	**60**		