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UNIVERSITÀ DEGLI STUDI
DI PERUGIA

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DEPARTMENT
OF AGRICULTURAL, FOOD
AND ENVIRONMENTAL SCIENCES

MASTER DEGREE COURSE IN FOOD TECHNOLOGY AND BIOTECHNOLOGY

Duration
2 years

5

ECTS
120



Course coordinator

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Teaching goals

The Master's Degree Course in Food Technologies and Biotechnology (TBA) is aimed to prepare graduates with good basic knowledge in the main sectors of agri-food sciences and with advanced and qualifying knowledge in the sectors of food technologies and biotechnologies, beer production and olive oil production. Particular attention is paid to train graduates with a high level of preparation, in terms of scientific approach to the problem solving, and of identification of investigation and experimentation methods.

Teaching activities and ECTS		Educational objectives
COMMON TEACHINGS		<p>Graduates in TBA will acquire specific operational skills aimed at carrying out the multiple management tasks of production and technological activities, laboratories and services within the chain of transformation of raw materials into derived food products. Skills in communication and information management will represent the key for TBA graduates to operate in complete autonomy in the professional sphere and to ensure their integration into the world of work, nationally and internationally. In particular, the CdLM in TBA turns its attention to the training of graduates who can competently carry out the activity of professional operating within the various aspects of the agri-food chain, with specific reference to those described below:</p> <ul style="list-style-type: none"> - management of production lines, transformation, conservation and marketing of agro-food products, beer and olive oil production; - study, design, management, surveillance, management and verification of food processing processes and related biological products, including wastewater purification and by-product recovery processes; - operations of distribution and procurement of raw materials and finished products, food additives, food plants; - analysis of food products, quality and quantity control of food raw materials, finished products, additives, technological adjuvants, semi-finished products, packaging and anything else related to the production and processing of agri-food products, definition of standards and specifications for the aforementioned products, in interest of both private and public structures. - functions of expert and arbitration in relation to the powers listed above; - market research and related activities in relation to agri-food production; - research and development of processes and products in the agro-food, beer and olive-oil production; - study, design, surveillance, management, accounting and testing for activities related to collective catering in company canteens, public canteens, hospital canteens and any type of canteen and restaurant service; - activities and operations common to other professional categories within the limits of their respective competencesq; - teaching in schools of all levels of scientific and technical matters concerning the agro-food sector and those related and linked to it. <p>The course in Food Technology and Biotechnology is geared towards complete training in all agri-food chains (products of plant origin, animal origin, products from innovative food sources), but provides more specific skills through the articulation in three curricula:</p> <ul style="list-style-type: none"> _ Food Technologies (TA). Provides skills related to the production of raw materials, pest management, analytical techniques and technological innovations in all agro-food sectors. _ Olive and olive oil technologies (TOO). Provides specific and updated skills in the oil sector from the production of olives, to the technology of extraction, conditioning and packaging, up to analytical techniques.
APPLIED PHYSICS FOR FOOD INDUSTRIES	6	
FOOD HYGIENE	6	
NOVEL FOOD SOURCES	6	
ANIMAL PRODUCTIONS FOR FOOD INDUSTRY	6	
BIOTECHNOLOGIES FOR FOOD INDUSTRY	12	
LEGISLATION AND MARKETING IN THE FOOD INDUSTRY	11	
English language - Level B2	3	
Elective	8	
Practical internship preparatory to the thesis	4	
Final exam - thesis	16	
CURRICULUM FOOD TECHNOLOGIES		
Food analyses and data processing	6	
Food crop cultivation	12	
Control of post-harvest diseases and pests	6	
Industries of food products and innovations in food technology	12	

Processing of fermented beverages	6	<p>_ Brewing Technologies (TB). Provides specific and updated skills in the beer sector from the production of traditional and innovative raw materials, to production technologies, up to analytical techniques.</p> <p style="text-align: center;">Skills and career opportunities</p> <p>The course provides good basic knowledge in the main sectors of agro-food sciences and specific advanced and qualifying knowledge in the sector of food technologies and biotechnologies. In particular, the graduate can perform the following functions:</p> <ul style="list-style-type: none"> - management of production, processing, conservation and marketing lines of agro-food products; - study, design, management, surveillance, management and testing of food processing processes and related biological products; including effluent purification and by-product recovery processes; - management of distribution and procurement operations of raw materials and finished products of food additives, food plants; - responsibility for the analysis of food products, quality and quantity control of food raw materials and finished products and everything related to the production and processing of agri-food products, definition of standards and specifications for the aforementioned products; works relating to collective catering in company and public canteens; - activities and tasks common to other professional categories within the limits of their respective competences; - expert and arbitration functions in relation to the powers listed above; - market research, in relation to agri-food production; - research and development of processes and products in the agri-food sector; - study, design, surveillance, management, accounting and testing; - activities related to developing countries, with private companies, with national bodies or with international organizations (FAO, WHO, IFAD, UNICEF, etc.) - the profession. <p>The CdLM prepares for the achievement of the professional title of Food Technologist, based on the current legislation governed by Law 59 of 1994, and for the profession of Senior Agronomist, regulated by the D.P.R. 328/2001 and subsequent amendments.</p>
CURRICULUM OLIVE AND OLIVE OIL TECHNOLOGIES		
Advances in olive oil technologies	9	
Olive growing	12	
Pest and disease control in olive growing	6	
Industries of food products	9	
Advances in olive oil technologies	6	
CURRICULUM BREWING TECHNOLOGIES		
Advances in olive oil technologies	9	
Brewing crops and innovative cropping systems	9	
Pest and disease control in beer crops	6	
Industries of food products and innovations in food technology	12	
Brewing technologies	6	