

LM-61 - Food Science and Human Nutrition

The Master's Degree Course in Food Science and Human Nutrition is designed to train experts in research and development in areas related to food quality and human nutrition. Special attention will be paid to mastering advanced analytical tools to enable assessment of the fundamental characteristics regarding raw materials and food products.

The training course includes the acquisition of knowledge in raw materials and their genetic characterization, structure and function of food chemical constituents, nutritional, sensory, microbiological and toxicological quality of food and its shelf-life, hygienic and health aspects, biotechnological tools for the preparation of functional foods, technologies for post-harvest storage, microbiological control and food safety for functional purposes.

The course also includes a training program related to human nutrition, starting from an acquisition of the pathophysiology of the digestive system and liver, including the main diseases, current diagnostic methods in the field of hepato-gastroenterological with particular reference to genetic tests for the early diagnosis of disease, the principles of therapy in the field of nutrition, including the mechanisms of action and the potential beneficial effects of novel "biological" drugs and of drugs with a "molecular target".

The principles of nutritional requirements of major social impact relevant to age and metabolic diseases, e.g. diabetes and hypertension, will be discussed, as well as the relationship between food and cancer, especially in connection to nitrites and nitrates, aflatoxins and other food contaminants involved in tumor genesis.

The therapeutic importance of diet, fibers and natural antioxidants, able to interact with drugs promoting programmed death of malignant cells, slowing cell proliferation or hindering the formation of new blood vessels, will be addressed.

The Course also includes 18 ECTS for the thesis and 2 ECTS for stage activities.