

Course Descriptions

MSc in International Food Quality and Health

Food Quality, Perception & Eating Behaviour, 7.5 ECTS credits

The purpose of the course is to teach the students the basic principles of sensory theory and practice in relation to food quality assessment as well as consumer choice behaviour. By a holistic course structure, the students are guided through the different stages of conducting sensory tests; from the initial planning steps all the way through to the data analysis and reporting, focusing both on sensory theory and methodology, food consumer preferences and choices as well as data analysis and quality assessment in industrial practice. The focus of the course is the needs in food quality in food products going forward from an East/West perspective. This will be reflected in both hypothetical and practical working cases, as well as an industry excursion to enlighten students with the application of sensory science in the food industry.

Microbial Food Safety & Hygiene, 7.5 ECTS credits

Through a blend of practical exercises, lectures and active participation in problem-based group work the students will acquire an overall knowledge on theoretical aspects and analytical methods related to food microbiology. Furthermore, the students will be able to apply this knowledge in relation to specific issues of microbial food hygienic quality and safety by gaining an understanding of quality control, pathogen transmission and exposure, outbreak investigations as well as risk assessment and management. The focus of the case work in the course will be on challenges, which the Danish and Chinese food industries are facing currently.

Food Business, Marketing & the Consumer, 5 ECTS credits

The course aims to provide students with a general view of business, marketing, consumers and social issues in the food industry. Thereby, the students will acquire the skills to describe and analyse the food business, marketing systems, food consumer behaviours as well as social issues in food marketing. Finally, the students will be able to analyse marketing problems and conduct marketing planning for a food company. The course will cover topics such as the Food industry, Food Business Environment, Food Production and Marketing, Consumer Food Choices and Research, Strategic Marketing, Segmentation, Targeting and Positioning, Food Wholesaling and Retailing, Global Food Marketing, Ethical Food Marketing Behaviour and Health Issues, as well as CSR for Food Companies.

Food Chain Management, 5 ECTS credits

The aim of this course is to introduce the concepts of economic thinking in food production and distribution, food trade, as well as management of food quality and safety throughout the food supply chain. By a mix of lectures, theoretical exercises and group work by case studies, the students will acquire the skills for understanding, describing and reflecting upon the economic principles and management of food supply as well as the influence of the market competition environment, both locally and in an international perspective. The focus throughout the course is an economic approach to understanding current challenges in the food supply chain.

Food & Society, 5 ECTS credits

By covering three main themes, the course will introduce sociological perspectives on food safety and quality. The three themes are; A historical understanding of how perceptions on food safety and quality are linked to technological developments, a theme focussing on the actors and institutions in the food system and finally a cultural theme addressing the underlying cultural values and contexts related to food quality and safety. The students will acquire the skills to explain and use sociological theories and concepts in analysis of food safety and quality, identify and analyse the practices of actors and institutions related to food safety and quality as well as characterize and reflect upon historical developments and cross-cultural differences in perception of food safety and quality. The course will address relevant cases of both European and Asian food safety and quality perceptions.

Nutrition & Health, 7.5 ECTS credits

The purpose of the course is to introduce students to nutritional qualities of foods and diets, and the impacts on human health. By covering topics such as Nutritional and Dietary Requirements and Recommendations, Principles for Nutritionally Improved Food and Evidence for Health Claims, Food and Nutrition Security and Principles for Future Sustainable Diets as well as Malnutrition in Nutritionally Challenged Scenarios, the students will acquire the ability to understand the relations between nutrients, foods, diets and health from both a nutritional physiological and public health perspective. Further, the subjects will also be covered in relation to bioactive food components and food fortification. The focus of the course is both an understanding of nutrition and health on an individual life span level as well as on larger inter-cultural contexts.

Chemical Food Safety & Health, 3.75 ECTS credits

This course will provide students with a broad foundation of knowledge and overview of the safety assessment of chemicals in food to the human health. The course consists of lectures by selected experts covering topics such as Concepts in Toxicology, Dose-Effect Relationships, Pharmacokinetics, Risk Assessments of Chemicals in Food and Elimination of Toxic Chemicals. Furthermore, the course will give a comprehensive introduction to different typical chemicals in food, including natural toxins, food supplements, products derived from food processing, agricultural chemicals, microbiological food safety, persistent organic pollutants, engineered nanomaterials, food additives and veterinary drugs as well as genetically modified food. Upon completion, the students will be able to critically reflect and discuss the risks of foodborne toxicants and the relationships between chemicals in food and human health.

Food Fermentation & Processing, 5 ECTS credits

This multi-disciplinary course integrates Food Microbiology, Food Chemistry, Enzymatic and Metabolic Engineering, Food Analysis and Detection, and aims to give students knowledge and understanding of a wide range of microbial and enzymatic processes involved in food and ingredient fermentation. Major microorganisms (lactic acid bacteria, moulds and yeasts), including their physiological and metabolic properties, involved in food fermentations are covered to provide a foundation for the fermented products around the world, and their impacts on nutritional value and human health. The course is designed to introduce the knowledge about food fermentation focussing on the latest scientific insights in relation to their desired impacts.

Food Production Environment & Quality, 5 ECTS credits

This course will provide students with a fundamental knowledge on the relationships between soil conditions, accessibilities, plant absorption and food quality as well as environmental impacts of these, including pollution. The course will cover topics such as Soil Types and Distributions, Assessment of Agro-Product Quality, Plant Nutrition, Agronomy, Chemical Food Safety and Health and Soil Pollution Migration Mechanisms.

Food Toxicology, 3.75 ECTS credits

Food toxicology is the study of the nature, properties, effects and detection of toxic substances in food, and their disease manifestation in humans. The purpose of this course is to provide students with a broad foundation of knowledge and overview of major existing and newly emerging items of concern within the field of food toxicology and food safety

assessment. From health and economic consequences to exposure assessment and detoxification, this course comprehensively covers Dose-Response Relationships, Absorption of Toxicants, Distribution and Storage of Toxicants, Biotransformation and Elimination of Toxicants, Target Organ Toxicity, Teratogenesis, Mutagenesis, Carcinogenesis, Food Allergy and Risk Assessment.

The course is finalized by an open-book examination.

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Modern Food Analysis, 5 ECTS credits

The course Modern Food Analysis will take the students through a comprehensive introduction to food analysis and current analytical methods and instrumentation for characterizing the properties of foods and their components. The purpose is to give fundamental knowledge about instrumental analysis techniques and methods used in food analysis as well as their application in food science research. Topics such as Sampling and Sample Preparation, Compositional Analysis of Foods, Chemical Properties and Characteristics of Foods, Characterization of Additives and Chemical Contaminators in Foods, Spectroscopy and Chromatography is covered, including an introduction to a range of state-of-the-art techniques for use in food analysis. All topics include information on the basic principles, procedures, advantages, limitations and applications. Furthermore, general information regarding regulations, standards, labelling, sampling and data handling is given on specific methods of food analysis.

The course is finalized by an open-book examination.