



# Food Systems and Management

MSc, PgDip, PgCert



Drawing from our best strengths at Cranfield (technology and management), our Food Systems and Management MSc explores the integrated nature of the current food supply chains and how to effectively manage the increasing demand from consumers for improved food safety, quality and security.

Cranfield's Food Systems and Management MSc is unique in Europe as it examines the whole food chain from pre-harvest to market. It develops your management skills, and contains industry led teaching and industrial visits. These will equip you for a diverse career within the food industry in the 21st century. The course has been developed following extensive industry-led research, and integrates science, technology and management. The current challenges in the rapidly-changing food industry are leading employers to seek graduates who can understand and effectively manage food supply chains.

## Who is it for?

This course is suitable for new graduates from a science or technology background who are interested in a career within the food industry. It is also ideal for professionals already working in the industry who would like to train to further their career.

Through the integration of scientific, technological and managerial factors students will learn how to use food resources more efficiently to achieve higher quality and safer food production as well as successfully understand and manage food supply chains. It provides a critical appreciation of the issues concerned with the production and supply of safe food in the modern world.

## Course structure

- Eight taught modules (40%),
- Group project or dissertation (20%): You will be working in a mini-consultancy project for one of our industrial clients,
- Individual research project (40%).

## Informed by industry

This MSc benefits from input from an industry advisory panel with representatives from commercial and non-commercial organisations, who help to ensure the course maintains its real-world relevance to the marketplace and industry focus. This involvement and direct contact with industry makes successful students highly sought after in the employment market.

## Future career

A degree from Cranfield will fast-track your career, enabling you to go further and to progress more quickly. The skills you acquire are in demand by growers, food retailers, agrochemical companies, government agencies, logistics and supply chain companies and research institutions across the world. Our graduates are working in some of the sector's most successful companies - including Unilever, PepsiCo, Warburton, G's Growers, Discovery Foods, Adelle Foods, MAKRO and Syngenta – and the most prestigious research organisations such as EU Universities and Rothamsted Research.

## Key information

### Duration:

MSc: one year full-time, two to three years part-time,  
PgDip, PgCert: one year full-time, two years part-time.

### Start date:

Full-time: October.  
Part-time: October.

### Qualification:

MSc, PgDip, PgCert.

### Location:

Cranfield campus.

### Entry requirements

A first or second class UK Honours degree in a relevant scientific discipline; such as a life science, food science or food engineering. Candidates with appropriate professional experience are also invited to apply.

## Overview of taught modules

### Plant-Based Food Quality

This introductory module provides an understanding of how soil health and composition affects the nutrients accumulated in plants and how the biochemical composition of plant-based foods and beverages determines quality (e.g. colour, shape, aroma, taste, texture, nutrition) and value.

### Food Diagnostics

This module aims to equip you with a holistic understanding of the concept of food diagnostics and the role of monitoring and analysis in food quality, safety, and management. This includes a broad range of areas: analytical methods, non-destructive techniques, detection of food adulteration and current techniques to identify fraud, integration of datasets to predict food quality and safety (bioinformatics).

### Post-harvest Technology

To provide an overview of the key aspects of postharvest physiology and explore the technologies used to extend the storage and shelf-life of fresh produce reducing waste throughout the food supply chain.

### Food Safety

This module aims to provide an overview of the main hazards encountered along the food chain (physical, chemical and biological). This is a highly practical module where you will learn how to use the ecology and physiology of the microorganisms present in food products to control and improve food safety. You will experiment with methods for detecting and controlling spoilage, mycotoxin contamination, and the use of hurdle technology for improving shelf-life.

### Food Quality Management and Certification

This module intends to provide the students with an overview of the food quality legal framework and examples of its application to industrially relevant cases. The students gain an understanding on the general framework and then narrow down to particular areas and sectors. Some important food chains are being used as examples.

### Management for technology

Run by Cranfield School of Management, this module provides students with a micro-MBA course in a week. Its aim is to ensure that science graduates and engineers are equipped with the necessary skills to understand management processes in an organisational context. This can provide our students with a real competitive advantage when entering the workplace as they are able to apply their technological skills to a business environment.

### Food Chain Resilience

In this module, participants will be introduced to key aspects of supply chain management which are critical to improving the overall resilience of the global food supply network.

### AgriFood Business Innovation

This module explores current and future challenges that different sectors of the food chain are facing. It is delivered in London and run in collaboration with our industrial partners and members of the Agrifood Industrial Advisory Panel. Throughout the module, external speakers will provide students with an insight into the main challenges their organisations have faced and the innovative projects that have been delivered to overcome them.

In 2017/18 the module was hosted by:  
Prof. Bizhan Pourkomailian, Director of Global Food Safety,  
Restaurant & Distribution c/o McDonald's Restaurants Limited.

## Group project

The group project will provide you with the opportunity to work as part of a consultancy team, typically made up of students from more than one MSc course, over a period of 10 weeks.

The consultancy team is responsible for running the project and presenting the outputs of their work as a single project report and a presentation at the Exhibition Day at the conclusion of the group project period. Many of the projects are supported by external organisations giving you the opportunity to network with potential future employers.

Through the group project process you will be working on real challenges that are faced in the work environment where you will not only be able to apply the technical knowledge gained from the taught modules but you will be able to develop and enhance your team working, management of resources, reporting and presentation skills.

For part-time students a dissertation usually replaces the group project. The topic of the dissertation is typically proposed by the student and linked to their employment.

Examples of recent group projects include:

- **Hygiene profiling of a fast food restaurant,**
- **Evaluation of the health hazards of deep frying,**
- **Assessing microbial spoilage risks of high energy snacks.**

## Individual project

The four-month individual research project can be carried out within industry or academia and for part-time candidates it can be undertaken in your place of work. This key part of the course allows you to apply the research skills acquired during the taught phase of the course to a practical problem in your area of specialism and acts as an opportunity for you to meet potential future employers. Typically you will have two supervisors who will provide advice and guide you through the research work. The individual project is assessed by the presentation of a written document in the form of a scientific paper and by an oral presentation to your examiners of a poster about your project.

## Accreditation

The MSc of this course is accredited by:



## Contact details

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For further information please visit  
[www.cranfield.ac.uk/foodmasters](http://www.cranfield.ac.uk/foodmasters)