Food Systems and Management

MSc, PgDip, PgCert

If you are passionate about food and you want to contribute on mitigating major worldwide problems such as food security and food safety, our MSc course is your gateway for succeeding in this area.

The Food Systems and Management MSc explores the integrated nature of the food supply chains, and shows you how to effectively manage them for improved food safety, quality and management.

Cranfield's Food Systems and Management MSc is unique in Europe as 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.

We have a great commitment with student excellence, from both the UK and from around the world, and every year we will offer bursaries to several outstanding candidates.

Who is it for?

The course is suitable for new graduates from a science or technology background who are interested in a career within the food industry. The course is also ideal for professionals already working in the industry who would like to train to further their careers. Available on a full and part-time basis the course offers flexibility and support for those who wish to train whilst remaining in employment.

The Food Systems and Management MSc is part of the Agrifood Programme. It provides a critical appreciation of the issues concerned with the production and supply of safe food in the modern world.

Course structure

- Seven taught modules (40%),
- Group project (20%),
- 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. Specific relevant job roles may include: management, food innovation, production, logistics, research or academia, retail sector, food storage. Our graduates are working in some of the sector's most successful companies - including Unilever, PepsiCo, Warburton, G's Growers, Discovery Foods, Adelie 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

Example modules

The list below shows the modules offered in the 2019/2020 academic year, to give you an idea of course content. To keep our courses relevant and up-to-date, modules are subject to change - please see the webpage for the latest information.

Compulsory modules

(all the modules in this list need to be taken as part of this course).

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 you with an insight into the main challenges their organisations have faced and the innovative projects that have been delivered to overcome them. In the past 3 years, the module was hosted by Prof. Bizhan Pourkomailian, Director of Global Food Safety, Restaurant c/o McDonald's Restaurants Limited.

Food Chain Resilience
In this module, you will be introduced to key aspects of supply chain management which are critical to improving the overall resilience of the global food supply network. This module is run by Cranfield School of Management.

Food Diagnostics
This module aims to equip you with a holistic undertstanding 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 and datasets to predict food quality and safety (bioinformatics).

Food Safety and Quality Management and Certification
This module aims to provide an overview of the main hazards encountered along the food chain. In this highly practical module 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. In the second part, you will get an overview of the food quality legal framework and examples of its application to industrially relevant cases. You will gain an understanding on the general framework and then they will narrow it down to particular areas and sectors. Some important food chains will be used as examples.

Leading Corporate Sustainability
Society increasingly expects businesses, alongside governments and civil society, to play a key role in responding to the huge environmental and social challenges facing us today. In this module, we explore why business must play a role in creating a more sustainable future, how they go about doing that and your role as an individual in driving this change.

Postharvest Technology
This module provides an intensive study of the fruit and vegetables physiology and the technologies available to maintain their quality across the supply chain. This includes postharvest handling, packaging strategies, use of by-products and storage methods. With the knowledge gathered in this module, you will have the tools needed to help reduce global food waste.

Quality of Food and Beverages
This module provides an understanding of how quality (e.g. colour, shape, aroma, taste, texture, nutrition) and value are evaluated in foods and beverages, and how this is influenced by genetic, environmental and management factors.

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 delivering the outputs of their work as a single project report and a presentation on the 'Exhibition Day'. Many projects are supported by external organisations giving you the opportunity to network with potential employers. The group project process will expose you to real food industry challenges for which you will apply the technical knowledge gained during the taught modules; whilst developing and enhancing 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 health science 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.

Cranfield University also actively seeks sponsorship and support for individual thesis projects from the food and environmental sector employers to provide professional experience and development opportunities for students. Thesis sponsors and supporters include: Coca Cola Enterprises, Selva Organic, McDonald's Restaurants Ltd, GreenWay Foods, Giles Foods, Discovery Foods, Edward Vinson Ltd., KWS Ltd., Greenyard Fresh UK, and Whitworth's.

In association with Cranfield School of Management

Accreditation

The MSc of this course is accredited by:

IAgrE

Institute of Food Science + Technology ifst accredited DEGREE COURSE

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