

# An introduction to Food Science

*A short online course*



Co-funded by the European Union



# Context

- Food is an essential part of our daily lives, providing us with the energy and nutrients needed to function optimally. It is crucial that food science becomes an integral aspect of our routine as it is related to the study of food composition, preservation and safety.
- With the prevalence of diet-related health problems, it is essential to have a better understanding of the science behind food.
- The lack of knowledge about food can lead to confusion and misinformation, and it's important to understand food science to make informed decisions about what to eat.
- Media often simplifies information about food and nutrition, leading to contradictory recommendations and inaccurate reporting.
- This can leave individuals unsure not only about what constitutes a healthy and sustainable diet, but about how the consumer is protected by legislation, food integrity and the importance of food safety.

# Solution

- To address misinformation and lack of knowledge surrounding food and its related sciences, EIT Food has developed this comprehensive short online course to provide reliable information about food production, integrity and safety, and the legislation related to it.
- The course title is “Introduction to Food Science”. It is composed of 16 hours of learning broken down in 4 modules.
- On this course, learners will look at:
  - how to make safe, healthy and sustainable food choices
  - food contaminants, food safety, ethical issues and food sustainability
  - how the consumer is protected by legislation
  - consumer role in food safety for a better food system



# Ambition

- Our mission is to help everyone understand what the microbiome is and how it works for empowering individuals with the necessary knowledge to improve their health and make wiser decisions concerning their habits in daily life.
- We aim to provide a comprehensive understanding of the latest research and insights into the link between health and microbiome for any individual that could be interested.



# High level contributors

- This course has been designed for anyone interested in food and looking for reliable information on how to make safer, healthier, and more sustainable food choices, and it will be particularly useful for final year school students undertaking a food-related subject or considering a career in food science.
- It has been created by Queen's University Belfast and produced with content provided by the Autonomous University of Madrid, the Spanish National Research Council and by the University of Turin.



# A modern approach to learning

- Fully online, short learning opportunity
- Course available 24/7 to fit with busy lifestyle
- Content accessible on any connected device
- Short lesson in a variety of formats: video, text, quizzes, etc
- Conversational learning: Learners are encourage to reflect and join discussions
- Additional content added to each steps to further explore the topic



# Trailer video



# Course Syllabus

## Week 1: Diet and Health

Welcome to the course  
Food Constituents  
Diet and Health  
Functional Foods  
Summary

## Week 3: Food Integrity

Welcome to Week 3  
Food Safety  
Food Quality  
Food Authenticity  
Review and Reflect

## Week 2: Ethical and Sustainability Considerations

Welcome to Week 2  
Food Production  
Food Security  
Food and Critical Consumption  
Review and Reflect

## Week 4: The role of the consumer

Welcome to Week 4  
Responsible Food Choices  
Barriers to responsible food choices  
Ultra Processed Foods and Consumer Perceptions  
Review and Reflect



## Week 1: Diet and Health

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### Welcome to the course

Find out about what you will be learning, who will be guiding you and how the course is taught.



**1.1** Welcome to the course [ARTICLE](#)

**1.2** Meet the team [ARTICLE](#)

**1.3** Before we begin [ARTICLE](#)

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### Food Constituents

Food is vital for optimal health and wellbeing. In this section we will explore both macronutrients and micronutrients and their role in the diet.



**1.4** Food constituents [VIDEO \(08:57\)](#)

**1.5** Protein in the diet [ARTICLE](#)

**1.6** How does the EU regulate the food information to consumers? [ARTICLE](#)

**1.7** Food composition tables [DISCUSSION](#)

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### Diet and Health

Diet has a profound impact on human health. In the past decades, the global shift of dietary habits towards the so-called Western diet has been linked to a high prevalence of diet-related chronic



# Types of food fraud

0 comments

Food fraud can be broadly categorised as: adulteration, tampering, product overrun, theft, diversion, simulation and counterfeiting, for the purpose of financial gain by increasing the apparent value of the product or reducing the cost of its production.

The following table (adapted from Spink and Moyer, 2011) presents the different types of fraud which can occur in the food chain.

Table 4: Types of food fraud

Type of food fraud	Description	Example
Adulteration	A component of the finished product is fraudulent	Melamine in milk
Overrun	Legitimate product is made in excess of production agreements	Under-reporting of production

**Functional Food Ingredients**

UAM  
Universidad Autónoma  
de Madrid

Probiotics

Lactobacillus/  
Bifidobacterium species

Yeasts

Moulds

4:20 1x HD

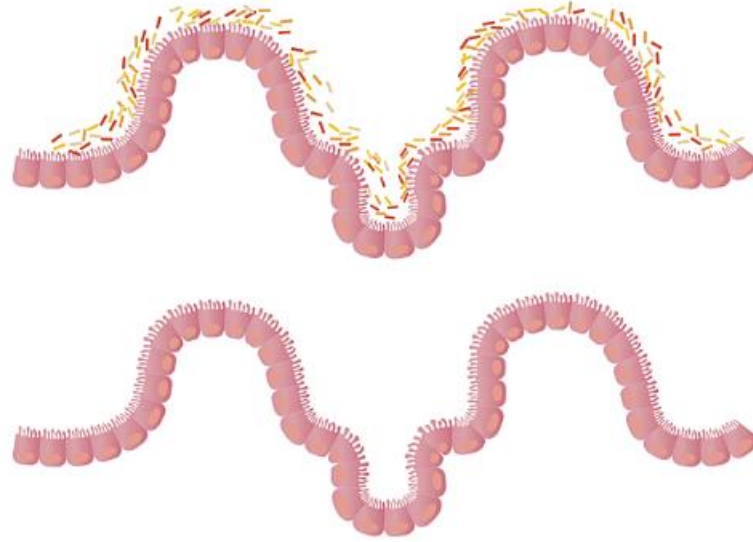
[View transcript](#)[Download video: standard or HD](#)

## Functional foods

[1 comment](#)

Many foods contain health claims on their packaging. These products are known as functional foods.

According to the International Life Science Institute, a food can be described as functional when it has proved beneficial effects for the human health beyond the normal nutritional effects. A



Gut Microbiota

© Pixabay

## Microbiota, diet and well-being

[3 comments](#)

What is our microbiota? Microbiota is defined as the collection of microorganisms present in a defined environment. A huge number of microorganisms colonize our gastrointestinal tract.



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# Introduction to Food Science

**SHORT ONLINE COURSE**

- Course available on demand

- Link:

<https://www.futurelearn.com/courses/an-introduction-to-food-science>



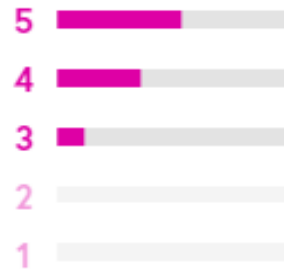
# Learner reviews

Powered by 

4.4



34 Reviews





Mark W. Verified learner



### My favorite course

I like this course it's very helpful informative course. And it's for everyone who is interesting in food, nutrition and food for all.

27/03/22



Elloise S. Verified learner



### 5/5 well deserved

Right level of information and quick and easy to do on the go

24/11/22





**Thank you!**



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