

Postgraduate Certificate

Traceability in the Food Industry





Postgraduate Certificate

Traceability in the Food Industry

- » Modality: online
- » Duration: 3 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/nutrition/postgraduate-certificate/traceability-food-industry

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

p. 12

04

Structure and Content

p. 18

05

Methodology

p. 22

06

Certificate

p. 30

01

Introduction

Every company in the food industry is required to have a food safety plan, which makes it essential for the members of the quality department team to know each of the phases of the HACCP system, including batch traceability. This TECH program will provide nutrition professionals with a global vision of the entire food chain and the skills to advise different companies in the industry. In this sense, traceability systems go beyond the limits of the company itself, where the transportation of goods, applicable regulations and transportation conditions for each type of product are of vital importance.





“

*Do not miss the opportunity that
TECH offers you and enroll in this
Postgraduate Certificate. It will make
the difference in your professional skills”*

The TECH Technological University program in Traceability in the Food Industry focuses on the traceability of the entire production process in food industry factories, oriented, therefore, towards the comprehensive management of food safety for consumption.

This Postgraduate Certificate covers relevant concepts in food safety, focusing on the production of animal and vegetable-based raw materials. Differentiated quality seals are studied, as well as the auditing and certification processes of agri-food industries.

In addition, it establishes internal audit and certification systems used in the agri-food industry, the agencies involved in these processes and their regulations; it also analyzes the differentiated quality seals and the production requirements that these foods must meet. It should be borne in mind that the food crises that have occurred in recent decades at European and world level have demonstrated the need for systems to identify, locate and withdraw products that could represent a food safety risk and a danger to the health of the population.

Every company in the food industry is required to have a food safety plan, which makes it essential for the members of the quality department team to know each of the phases of the HACCP system, including batch traceability.

For this reason, this program offers professionals a solid foundation of skills and abilities that will allow them to develop and implement traceability plans in the various food sectors in the industry.

This Postgraduate Certificate is taught by university professors and professionals from various disciplines in primary production, the use of analytical and instrumental techniques for quality control, the prevention of accidental and intentional contamination and fraud, food safety/food integrity and traceability (food defense and food fraud/food authenticity). It is an educational project committed to training high quality professionals.

This **Postgraduate Certificate in Traceability in the Food Industry** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ Case studies presented by experts in food safety in the area of nutrition
- ◆ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ News on Traceability in Food Industries
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Special emphasis on innovative methodologies in Traceability in Food Industries
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



All you need is an Internet connection. This will be the gateway to the most complete and updated compendium of information on the market in the food industry”

“ *Traceability in the Food Industry is currently booming, making it the specialization of the future*”

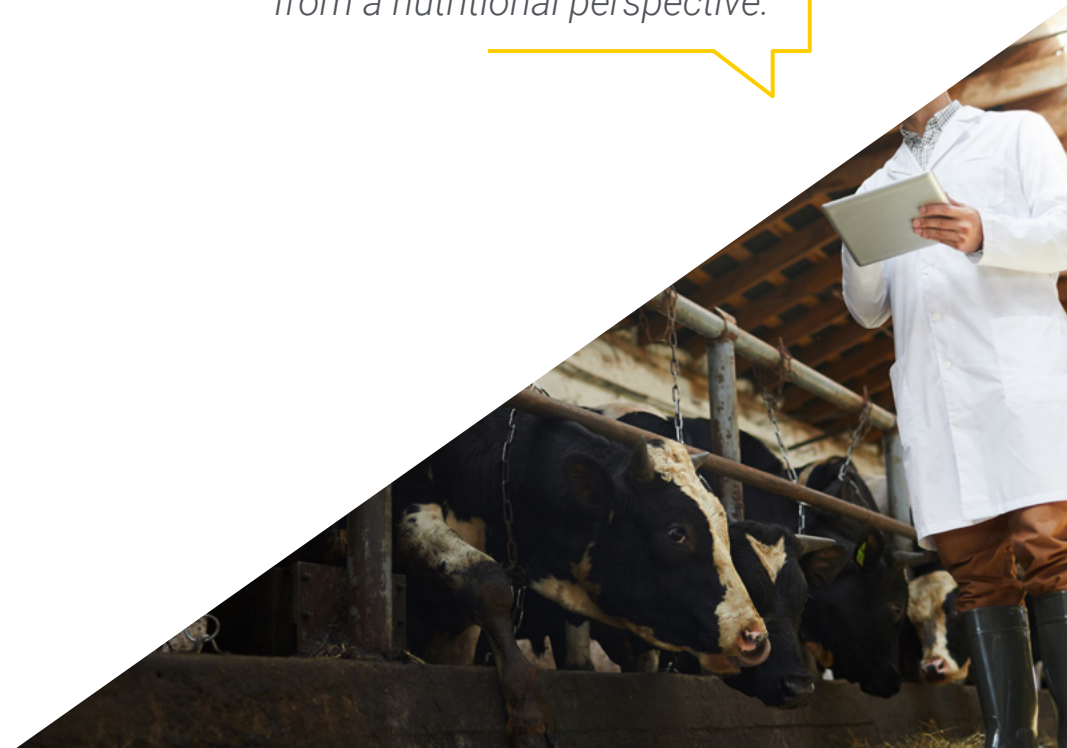
The teaching staff includes professionals who belong to the field of food traceability in the area of nutrition, and who bring to this program the experience of their work, as well as recognized specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive learning programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this, the professional will be assisted by an innovative interactive video system developed by recognized experts in Traceability in Food Industries and with great experience.

You will develop and implement a rigorous and successful traceability plan.

With this Postgraduate Certificate, you will master the key aspects of food traceability in the food industry from a nutritional perspective.



02

Objectives

This program in Traceability in the Food Industry is designed to provide the knowledge that nutrition professionals need, as well as the latest advances in the industry. All this, in an exclusively practical way, by means of the most complete theoretical and practical contents of the sector. Likewise, during the course of this Postgraduate Certificate, professionals will address the main interventions specialists conduct in food safety. Students will improve and hone your skills within your sector, with the certainty that you are carrying out the protocols as effectively and safely as possible.



“

TECH puts in your hands this Postgraduate Certificate with a single objective: To turn you into a successful nutritionist in your daily work”



General Objectives

- ◆ Develop the basis for good hygiene and traceability practices in the production of raw materials
- ◆ Specify the applicable regulations concerning primary animal production, as well as the internal audit and certification systems
- ◆ Define sustainable development objectives
- ◆ Analyze the fundamentals, requirements, regulations and main tools used in the traceability of the different points of the food chain
- ◆ Analyze the system for establishing a relationship between the food product and the origin of its components, the manufacturing process and distribution
- ◆ Evaluate food industry processes to identify those items that do not meet specific requirements to ensure food safety and consumer health
- ◆ Develop the basis for the application of the different phases of the traceability system in food sector companies





Specific Objectives

- ◆ Establish the basic principles of food safety
- ◆ Compile the reference databases on applicable food safety regulations
- ◆ Develop relevant aspects in the production of food of animal origin and its derivatives
- ◆ Establish the basis for animal welfare from breeding to slaughter
- ◆ Specify the mechanisms for internal auditing and certification of primary production
- ◆ Analyze foods of differentiated quality and the certification system for these products
- ◆ Assess the impact of the agri-food industry on the environment
- ◆ Examine the contribution of this industry to the sustainable development goals
- ◆ Define the background of logistics and traceability
- ◆ Examine the different types of traceability and scope of application
- ◆ Analyze the principles, requirements and measures of food legislation in the context of traceability
- ◆ Establishing the scope of application of traceability in its mandatory nature
- ◆ Analyze the different traceability and lot identification systems
- ◆ Identify and define the responsibility of the different actors in the food chain in terms of traceability
- ◆ Describe the structure and implementation of a traceability plan
- ◆ Identify and discover the main tools for the identification of batches
- ◆ Establish procedures for locating, immobilizing and recalling products in case of incidents
- ◆ Identify, analyze and explain the logistics process at each point of the food chain



This program will allow you to advance in your career comfortably"

03

Course Management

The program includes in its teaching staff leading experts in food safety in the field of nutrition, who pour into this Postgraduate Certificate the experience of their work. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner. All this, with the aim of specializing the nutritionist and providing him/her with the necessary academic tools to practice in this area with greater guarantees of success. From meat industry managers to nutrition doctorates, they have jointly put together a Postgraduate Certificate that all nutritionists need today.





“

A team of professionals in the field have developed this comprehensive Postgraduate Certificate on traceability in the food industry”

International Guest Director

Widely specialized in Food Safety, John Donaghy is a leading Microbiologist with an extensive professional experience of more than 20 years. His comprehensive knowledge on subjects such as foodborne pathogens, risk assessment and molecular diagnostics has led him to be part of international reference institutions such as Nestlé or the Department of Agriculture Scientific Services of Northern Ireland.

Among his main tasks, he has been in charge of operational aspects related to food safety microbiology, including hazard analysis and critical control points. He has also developed multiple prerequisite programs, as well as bacteriological specifications to ensure hygienic environments at the same time as safe for optimal food production.

His strong commitment to providing first class services has led him to combine his management work with scientific research. In this sense, he has an extensive academic production, consisting of more than 50 comprehensive articles on topics such as the impact of Big Data in the dynamic management of food safety risk, microbiological aspects of dairy ingredients, detection of ferulic acid esterase by *Bacillus subtilis*, extraction of pectin from citrus peels by polygalacturonase produced in serum or the production of proteolytic enzymes by *Lysobacter gummosus*.

On the other hand, he is a regular speaker at conferences and forums worldwide, where he discusses the most innovative molecular analysis methodologies to detect pathogens and the techniques for implementing systems of excellence in the manufacture of foodstuffs. In this way, he helps professionals stay at the forefront of these fields while driving significant advances in the understanding of Quality Control. In addition, it sponsors internal research and development projects to improve the microbiological safety of foods.



Dr. Donaghy, Jhon

- ♦ Global Head of Food Safety, Nestlé, Lausanne, Switzerland
- ♦ Project Leader in Food Safety Microbiology, Institute of Agri-Food and Biological Sciences, Northern Ireland
- ♦ Senior Scientific Advisor at the Department of Agriculture Scientific Services, Northern Ireland
- ♦ Consultant on various initiatives funded by the Food Safety Authority of the Government of Ireland and the European Union
- ♦ Doctorate in Science, Biochemistry, University of Ulster
- ♦ Member of the International Commission on Microbiological Specifications for Foods

“

Thanks to TECH, you will be able to learn with the best professionals in the world”

Management



Dr. Limón Garduza, Rocío Ivonne

- PhD in Agricultural Chemistry and Bromatology (Autonomous University of Madrid)
- Master's Degree in Food Biotechnology (MBTA) (University of Oviedo)
- Food Engineer, Bachelor's Degree in Food Science, and Technology (CYTA)
- Expert in Food Quality Management ISO 22000
- Specialist in Food Quality and Safety, Mercamadrid Training Center (CFM)



Professors

Dr. Colina Coca, Clara

- ◆ Collaborating Professor at the UOC. Since 2018
- ◆ Doctorate in Nutrition, Food Science and Technology
- ◆ Master's Degree in Food Quality and Safety: APPCC Systems
- ◆ Postgraduate in Sports Nutrition

Ms. Escandell Clapés, Érica

- ◆ Head of the Food Quality and Safety Department of the meat industry SUBIRATS GROUP (2015 - present)
- ◆ Bachelor's Degree in Food Science and Technology. (University of Vic)
- ◆ Master's Degree in Food Development and Innovation
- ◆ Diploma in Human Nutrition and Dietetics

Dr. Moreno Fernández, Silvia

- ◆ Postdoctoral Researcher. Autonomous University of Madrid. Since 2019
- ◆ PhD in Food Science (Autonomous University of Madrid)
- ◆ Degree in Biology from the Complutense University of Madrid. Specialized in the development of novel foods and the treatment of by-products from the food industry

04

Structure and Content

The content on this Postgraduate Certificate is structured into two modules that include all the relevant knowledge of Traceability in the Food Industry. It has been designed and agreed upon by experts who, based on their professional experience, provide future students with the necessary material to expand their knowledge of the food industry. Its relevance is greater than ever, so it is a safe bet for nutritionists to delve into what consumers demand. The first module covers information on the traceability of raw materials, including inputs, and the second discusses logistics and batch traceability, so nutritionists will obtain a general and specific idea of the processes involved.





“

*Learn about the latest trends
and the stages in supply chains”*

Module 1. Traceability of Raw Materials and Consumables

- 1.1. Basic Principles of Food Safety
 - 1.1.1. Main Objectives of Food Safety
 - 1.1.2. Basic Concepts BORRAR
 - 1.1.3. Traceability Concept and Application in the Food Industry
- 1.2. General Hygiene Plan
 - 1.2.1. Basic Concepts BORRAR
 - 1.2.2. Types of General Hygiene Plans
- 1.3. Primary Animal Food Production
 - 1.3.1. Basic Aspects and Animal Welfare
 - 1.3.2. Breeding and Feeding
 - 1.3.3. Transport of Live Animals
 - 1.3.4. Animal Slaughter
- 1.4. Primary Production of Animal Derivatives. Distribution of Raw Materials
 - 1.4.1. Milk Production
 - 1.4.2. Poultry Production
 - 1.4.3. Distribution of Raw Materials of Animal Origin
- 1.5. Primary Production of Plant-Based Foodstuffs
 - 1.5.1. Basic Aspects
 - 1.5.2. Types of Vegetable Crops
 - 1.5.3. Other Agricultural Products
- 1.6. Good Practices in Plant Production. Use of Phytosanitary Products
 - 1.6.1. Sources of Contamination of Vegetable Foods
 - 1.6.2. Transport of Raw Materials of Plant Origin and Risk Prevention
 - 1.6.3. Use of Phytosanitary Products
- 1.7. Water in the Agri-Food Industry
 - 1.7.1. Livestock
 - 1.7.2. Agriculture
 - 1.7.3. Aquaculture
 - 1.7.4. Water for Human Consumption in Industry
- 1.8. Audit and Certification of Primary Production
 - 1.8.1. Official Control Audit Systems
 - 1.8.2. Food Certifications
- 1.9. Foods of Differentiated Quality
 - 1.9.1. Protected Designation of Origin (PDO)
 - 1.9.2. Protected Geographical Indication (PGI)
 - 1.9.3. Traditional Specialty Guaranteed (TSG)
 - 1.9.4. Optional Quality Terms
 - 1.9.5. Use of Plant Varieties and Animal Breeds
 - 1.9.6. Organic Agriculture and Livestock
- 1.10. Food Industry and Environment
 - 1.10.1. Sustainable Development Goals (SDGs)
 - 1.10.2. Solutions Proposed by the Agri-Food Industry
 - 1.10.3. Genetically Modified Organisms as a Path to Sustainable Development

Module 2. Logistics and Batch Traceability

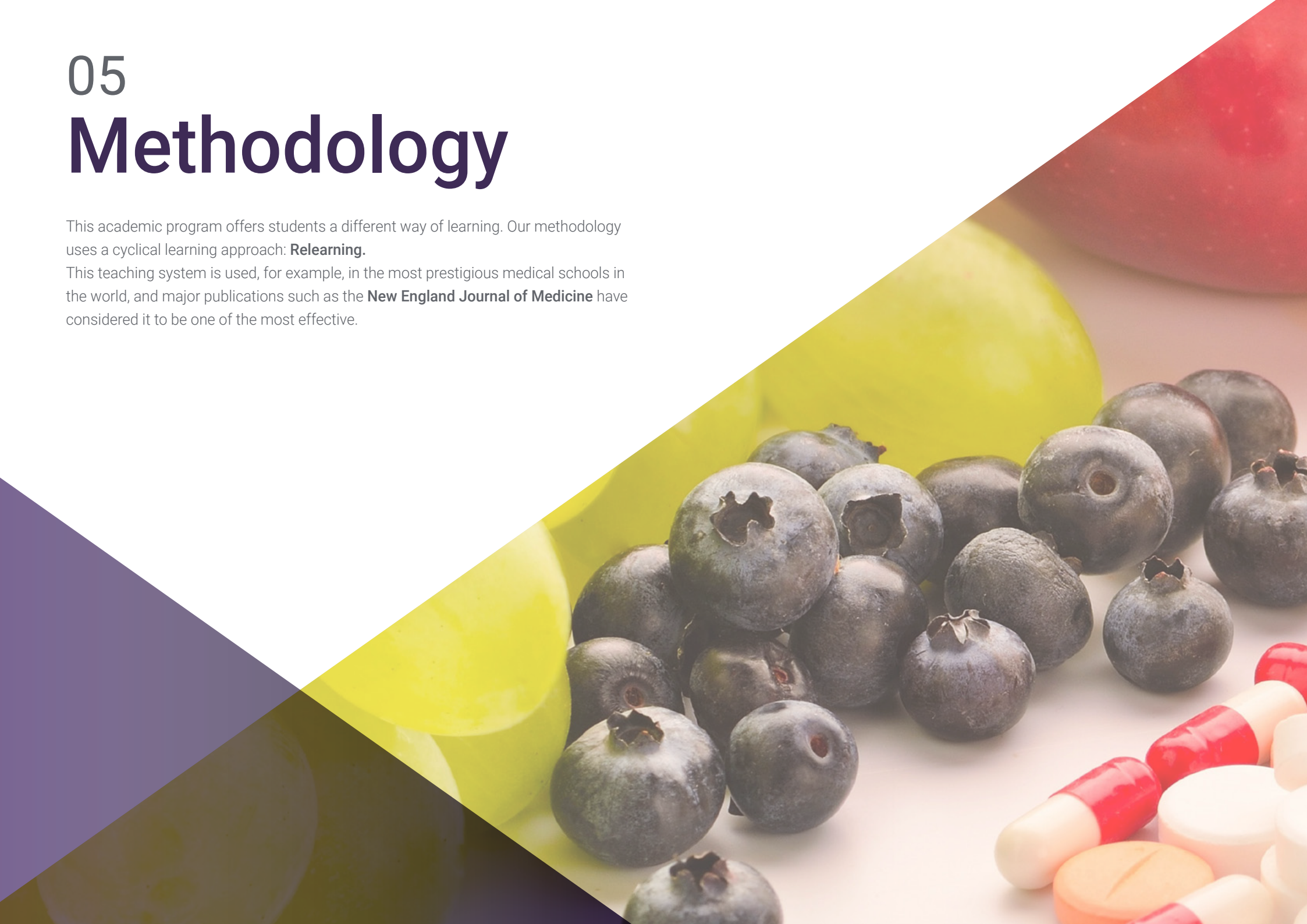
- 2.1. Introduction to Traceability
 - 2.1.1. Background to the Traceability System
 - 2.1.2. Traceability Concept
 - 2.1.3. Types of Traceability
 - 2.1.4. Information Systems
 - 2.1.5. Advantages of Traceability
- 2.2. Legal Framework for Traceability Part I
 - 2.2.1. Introduction
 - 2.2.2. Horizontal Legislation Related to Traceability
 - 2.2.3. Vertical Legislation Related to Traceability
- 2.3. Legal Framework for Traceability Part II
 - 2.3.1. Mandatory Application of the Traceability System
 - 2.3.2. Objectives of the Traceability System
 - 2.3.3. Legal Responsibilities
 - 2.3.4. Penalty Regime
- 2.4. Implementation of the Traceability Plan
 - 2.4.1. Introduction
 - 2.4.2. Previous Stages
 - 2.4.3. Traceability Plan
 - 2.4.4. Product Identification System
 - 2.4.5. System Test Methods
- 2.5. Product Identification Tools
 - 2.5.1. Hand Tools
 - 2.5.2. Automated Tools
 - 2.5.3. EAN Bar Code
 - 2.5.3.1. RFID// EPC
 - 2.5.4. Records
 - 2.5.4.1. Registration Identification of Raw Materials and other Materials
 - 2.5.4.2. Registration of Food Processing
 - 2.5.4.3. Final Product Identification Record
 - 2.5.4.4. Recording of the Results of Checks Performed
 - 2.5.4.5. Record Keeping Period
- 2.6. Incident Management, Product Recall and Reclamation and Customer Complaints
 - 2.6.1. Incident Management Plan
 - 2.6.2. Manage Customer Complaints
- 2.7. Supply Chain
 - 2.7.1. Definition
 - 2.7.2. Stages in the Supply Chain
 - 2.7.3. Supply Chain Trends
- 2.8. Logistics
 - 2.8.1. The Logistical Process
 - 2.8.2. Supply Chain vs. Logistics
 - 2.8.3. Containers
 - 2.8.4. Packaging
- 2.9. Modes and means of Transportation
 - 2.9.1. Transportation Concept
 - 2.9.2. Modes of Transport, Advantages and Disadvantages
- 2.10. Food Product Logistics
 - 2.10.1. Cold Chain
 - 2.10.2. Perishable Products
 - 2.10.3. Non-Perishable Products

05

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





“

Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

At TECH we use the Case Method

In a given situation, what should a professional do? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH, nutritionists can experience a way of learning that is shaking the foundations of traditional universities around the world.



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions of professional nutritional practice.

“

Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”

The effectiveness of the method is justified by four fundamental achievements:

1. Nutritionists who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity through exercises to evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the nutritionist to better integrate knowledge into clinical practice.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

The nutritionist will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 45,000 nutritionists have been trained with unprecedented success in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



Nutrition Techniques and Procedures on Video

TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current nutritional counselling techniques and procedures. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



Interactive Summaries

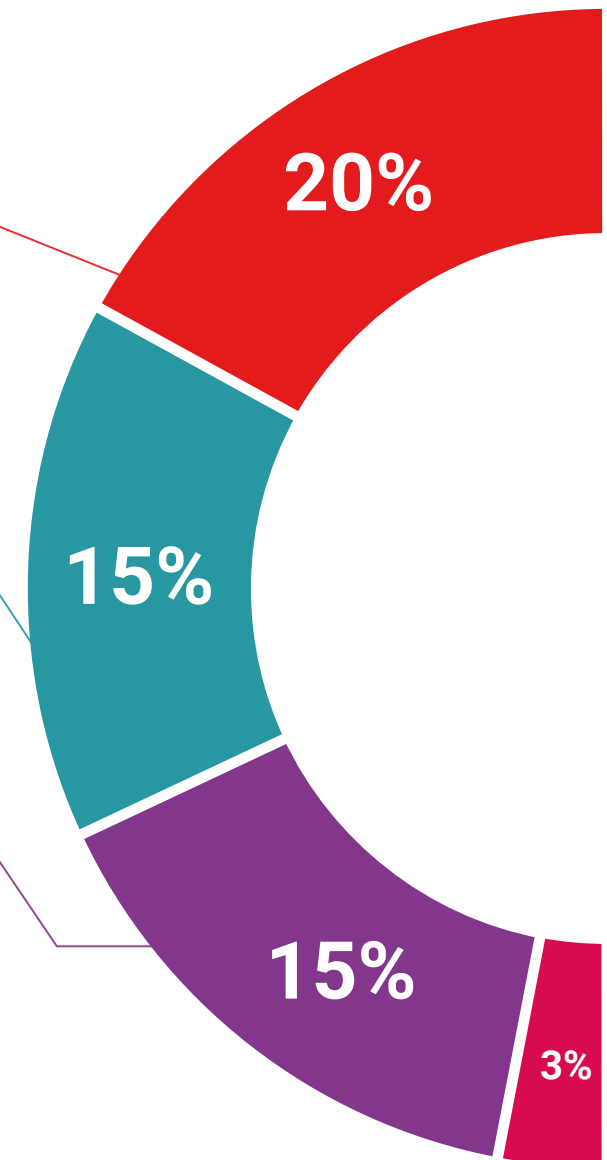
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

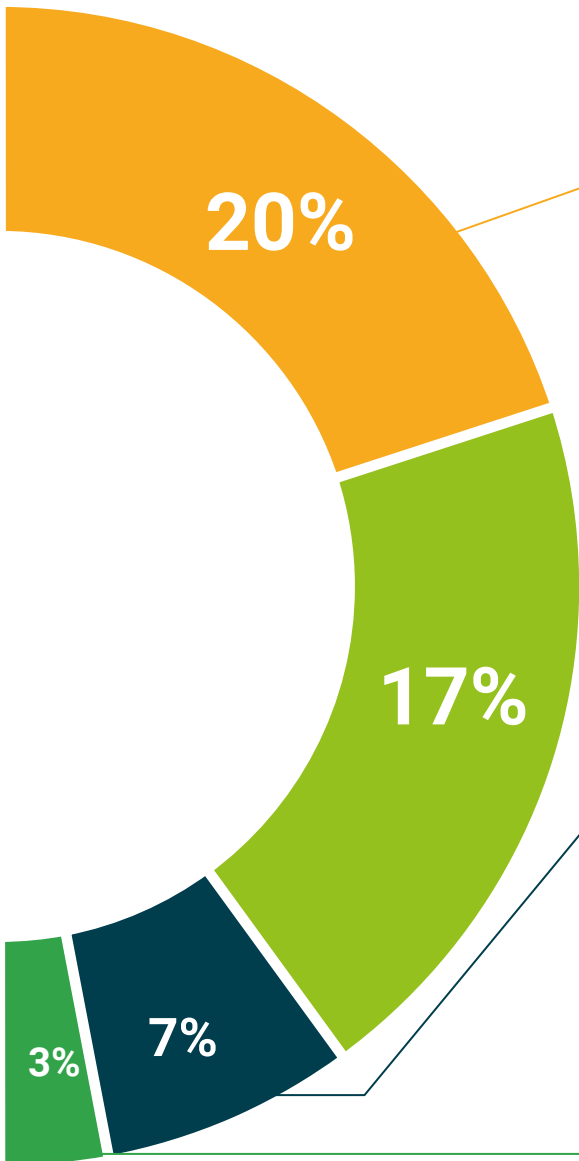
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



06

Certificate

The Postgraduate Certificate in Traceability in the Food Industry guarantees students, in addition to the most rigorous and up to date education, access to a Postgraduate Certificate issued by TECH Technological University.





“

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”

This **Postgraduate Certificate in Traceability in the Food Industry** contains the most complete and up to date scientific program in the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: Postgraduate Certificate in Traceability in the Food Industry

Official N° of hours: 300 h.



*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present
development languages
virtual classroom



Postgraduate Certificate Traceability in the Food Industry

- » Modality: online
- » Duration: 3 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Postgraduate Certificate

Traceability in the Food Industry

