

# Postgraduate Diploma

Process Management and  
Validation in the Food Sector





## Postgraduate Diploma Process Management and Validation in the Food Sector

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/in/nutrition/postgraduate-diploma/postgraduate-diploma-process-management-validation-food-sector](http://www.techtute.com/in/nutrition/postgraduate-diploma/postgraduate-diploma-process-management-validation-food-sector)

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# 01

# Introduction

This TECH program includes tools that nutritionists are required have to conduct current and effective Process Management and Validation in the Food Sector. This is an essential task to control the quality of the animal products consumed, an issue of vital importance that continuously requires qualified specialists. Therefore, the curriculum delves into the fundamental aspects that ensure critical control points are effective and rigorous, applying the necessary tools to validate the controls implemented, verifying their effectiveness and, consequently, to implement sound control processes in food safety management systems.





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*Do not hesitate, the food industry needs qualified nutritionists like you to manage the processes that regulate the food we consume”*

The Postgraduate Diploma in Process Management and Validation in the Food Sector at TECH Technological University is aimed at the comprehensive management of animal food safety.

Specifically, this training program develops the most important concepts of hazard, risk and safety as applied to the food industry, as well as the most commonly used methods to control them, including allergens. It addresses the principles of safety assurance management in the food production industry, using the HACCP plan as a model, its prerequisites, the stages for its implementation and the verification of its efficiency. Similarly, the general principles involved in international certification processes are reviewed, covering aspects such as documentation management, electronic records, audits and other requirements to successfully obtain certification.

Another of the strengths of this program is that it reviews the fundamental aspects that ensure critical control points are effectively guaranteeing food safety, as it is fundamental for them to be correctly formulated. In addition, it shows the tools needed to validate the controls in place, verify the effectiveness of these controls and have the confidence to implement sound control processes within the food safety management system.

The teachers of this Postgraduate Diploma are 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, regulatory schemes for food safety certification (Food Safety/Food Integrity) and traceability (Food Defence and Food Fraud/Food Authenticity). They are experts in food legislation and regulations on quality and safety, validation of methodologies and processes, digitalization of quality management, new foods research and development and, finally, coordinating and executing R&D&I projects. Essential matters to achieve the competencies required by the sector.

An educational project that is ultimately committed to propel nutritionists to the next level, designed by specialized professionals in each specific area, which adds a transversal quality to the program.

This **Postgraduate Diploma in Process Management and Validation in the Food Sector** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Case studies presented by experts in nutrition and food security
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional development
- The latest developments in process management and validation in the food industry
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies in process management and validation in the food sector
- 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



*We are what we eat! One of the competencies students will develop on this Postgraduate Diploma is how to assess and apply the principle of risk and its analysis in food safety”*

“

*Invest in this program and you will expand your capabilities as a 21st century nutritionist”*

It includes in its teaching staff professionals who belong to the food sector and who focus on process management and validation before food finally reaches the consumer. This ensures correct monitoring of the food chain, a process that nutritionists play an important role in.

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 specialization 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 Process Management and Validation in the Food Sector and with great experience.

*Learn to manage and validate processes in the food sector while remaining professionally active thanks to this online TECH Postgraduate Diploma.*

*The best teaching material at your fingertips + the latest educational technology = a future full of potential.*



# 02 Objectives

The Postgraduate Diploma in Process Management and Validation in the Food Sector is aimed at facilitating professional performance with the latest and most innovative advances in the sector. Thus, the main objective of this program is to provide nutritionists with the tools and skills to access positions in process management and validation in the food sector with greater guarantees of success by applying the necessary measures for its proper functioning. Future graduates will be able to identify the main food hazards according to their physical, chemical or biological nature; they will also examine some of the methods used to control these hazards and to correctly execute process validation methods.





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*Demonstrate your problem-solving capacity by analyzing causes and applying corrective actions in complaint management”*



## General Objectives

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- Fundamentals of the most important food safety concepts
- Define the concept of risk and risk assessment
- Apply these principles to the development of a safety management plan
- Concretize the principles of the HACCP plan
- Define the principles of a certification process
- Develop the concept of best practice certification
- Analyze the main international certification models for food safety management in the food industry
- Determine critical control points
- Possess the tools to validate CCP
- Analyze the concepts of process monitoring, verification and validation
- Improve management of incidents, complaints and internal audits





## Specific Objectives

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### Module 1. Food Safety Management

- ♦ Analyze the main types of hazards associated with food
- ♦ Evaluate and apply the principle of risk and risk analysis in food safety
- ♦ Identify the prerequisites and previous steps for the implementation of a safety management plan
- ♦ Establish the main hazards associated with food according to their physical, chemical or biological nature, and some of the methods used for their control
- ♦ Apply these principles to the development of a safety management plan
- ♦ Specify the methods to evaluate the efficiency of a critical point and of the safety management plan

### Module 2. Food Safety Certifications for the Food Industry

- ♦ Establish the general requirements for certification
- ♦ Identify the different types of Good Practices (GxP) required in a food safety management system and certification
- ♦ Develop the structure of the ISO and ISO 17025 international standards
- ♦ Define the characteristics, structure and scope of the main global food safety certification systems

### Module 3. Validation of New Methodologies and Processes

- ♦ Know the main differences between control points and critical control points
- ♦ Develop prerequisite programs and management charts to ensure food safety
- ♦ Apply internal audits, complaints or internal incidents as tools for the validation of control processes
- ♦ Review process validation methods
- ♦ Differentiate and specify the differences between monitoring, verification and validation activities within the HACCP system
- ♦ Demonstrate resolution capability with root cause analysis and implementation of corrective actions for complaint or nonconformity management
- ♦ Assess the management of internal audits as a tool for improving the HACCP plan



*Do not miss this great opportunity and become a prestigious nutritionist with this TECH Postgraduate Diploma”*

# 03

# Course Management

The program's teaching staff includes leading experts in process management and validation in the food sector, who bring their work experience and sector updates to this training. Additionally, other renowned experts in nutrition and process validation also participated in its design and development, completing the program in an interdisciplinary way, so nutritionists can acquire global and transversal competencies. The proposed curriculum emphasizes food safety auditing and consultancy work in the food industry, an issue that is currently in high demand and that will boost the career path of our future graduates.





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*This program has been carefully designed by specialists in the sector, who guarantee that you will be able to update your knowledge of the field”*

## 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

### Ms. Andrés Castillo, Alcira Rosa

- ◆ Researcher. GenObIACM Project. Group UCM
- ◆ IRYCIS R&C Institute for Health Research U. Endothelium and MCM
- ◆ Coordinator E.C. with pharmaceuticals and foodstuffs
- ◆ Data Manager for Clinical Trials with DM2 medication
- ◆ Degree in Marketing. UADE
- ◆ University Expert in Nutrition and Dietetics with CV Risk Factors and DM. UNED
- ◆ Food Traceability Course. USAL Foundation

### Ms. Aranda Rodrigo, Eloísa

- ◆ Degree in Food Science and Technology
- ◆ It develops its activity in the food production environment, with laboratory analysis of water and food
- ◆ Training in Quality Management Systems, BRC, IFS and ISO 22000 Food Safety
- ◆ Experience in audits under ISO 9001 and ISO 17025 protocols

# 04

# Structure and Content

The program is designed and structured according to requirements in the food sector, which guarantees nutritionists quality content updated by experts in the field, who face process management on a daily basis. The curriculum is thus organized in three modules that offer future graduate a complete vision, starting from how food safety is managed and delving into safety certifications, continuing through the validation of new methodologies and processes, such as self control systems or audits. All this to ensure a control that assesses and monitors the processes to which all types of food are subjected before reaching the consumer.







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*It is part of the chain that manages and validates the processes food is subjected to before reaching the end consumer”*

## Module 1. Food Safety Management

- 1.1. Food Safety Principles and Management
  - 1.1.1. The Concept of Danger
  - 1.1.2. The Concept of Risk
  - 1.1.3. Risk Evaluation
  - 1.1.4. Food Safety and Its Management Based on Risk Assessment
- 1.2. Physical Hazards
  - 1.2.1. Concepts and Considerations on Physical Hazards in Foods
  - 1.2.2. Physical Hazard Control Methods
- 1.3. Chemical Hazards
  - 1.3.1. Concepts and Considerations on Chemical Hazards in Foods
  - 1.3.2. Chemical Hazards Naturally Occurring in Food
  - 1.3.3. Hazards Associated with Chemicals Intentionally Added to Foods
  - 1.3.4. Incidentally or Unintentionally Added Chemical Hazards
  - 1.3.5. Chemical Hazard Control Methods
  - 1.3.6. Allergens in Food
  - 1.3.7. Allergen Control in the Food Industry
- 1.4. Biological Hazards
  - 1.4.1. Concepts and Considerations of Biological Hazards in Foods
  - 1.4.2. Microbial Hazards
  - 1.4.3. Non-Microbial Biological Hazards
  - 1.4.4. Biological Hazard Control Methods
- 1.5. Good Manufacturing Practices Program (GMP)
  - 1.5.1. Good Manufacturing Practices (GMP)
  - 1.5.2. Background on GMP
  - 1.5.3. Scope of GMPAI
  - 1.5.4. GMPs in a Safety Management System





- 1.6. Standard Operating Procedure for Sanitation (SSOP)
  - 1.6.1. Sanitary Systems in the Food Industry
  - 1.6.2. Scope of SSOPs
  - 1.6.3. Structure of a SSOP
  - 1.6.4. SSOPs in a Safety Management System
- 1.7. The Hazard Analysis and Critical Control Point (HACCP) Plan
  - 1.7.1. Hazard Analysis and Critical Control Points (HACCP)
  - 1.7.2. Background of HACCP
  - 1.7.3. HACCP Prerequisites
  - 1.7.4. The 5 Preliminary Steps to HACCP Implementation
- 1.8. The 7 Steps of Hazard and Critical Control Point (HACCP) Plan Implementation
  - 1.8.1. Risk Analysis
  - 1.8.2. Identification of Critical Control Points
  - 1.8.3. Establishment of Critical Limits
  - 1.8.4. Establishment of Monitoring Procedures
  - 1.8.5. Implementation of Corrective Actions
  - 1.8.6. Establishment of Verification Procedures
  - 1.8.7. Record Keeping and Documentation System
- 1.9. Evaluation of the Efficiency of the Hazard and Critical Control Point Plan (HACCP) System
  - 1.9.1. Evaluation of the Efficiency of a CCP
  - 1.9.2. Overall Evaluation of the Efficiency of the HACCP Plan
  - 1.9.3. Use and Management of Records to Evaluate the Efficiency of the HACCP Plan
- 1.10. Hazard Analysis and Critical Control Points (HACCP) Plan System Variants Based on Risk Systems
  - 1.10.1. VACCP or Vulnerability Assessment and Critical Control Points (VACCP) Plan
  - 1.10.2. Threat Assessment Critical Control Points (TACCP)
  - 1.10.3. Hazard Analysis and Risk-Based Preventive Controls (HARPC)

## Module 2. Food Safety Certifications for the Food Industry

- 2.1. Principles of Certification
  - 2.1.1. The Certification Concept
  - 2.1.2. The Certifying Agencies
  - 2.1.3. General Outline of a Certification Process
  - 2.1.4. Management of a Certification and Re-certification Program
  - 2.1.5. Management System before and after Certification
- 2.2. Good Practice Certifications
  - 2.2.1. Good Manufacturing Practice (GMP) Certification
  - 2.2.2. The Case of GMP for Food Supplements
  - 2.2.3. Good Practice Certification for Primary Production
  - 2.2.4. Other Good Practice Programs (GxP)
- 2.3. ISO 17025 Certification
  - 2.3.1. The ISO Standards Scheme
  - 2.3.2. ISO 17025 System Overview
  - 2.3.3. ISO 17025 Certification
  - 2.3.4. The Role of ISO 17025 Certification in Food Safety Management
- 2.4. ISO 22000 Certification
  - 2.4.1. Medical history
  - 2.4.2. Structure of the ISO 22000 Standard
  - 2.4.3. Scope of ISO 22000 Certification
- 2.5. GFSI Initiative and the Global GAP and Global Markets Program
  - 2.5.1. The GFSI (Global Food Safety Initiative) Global Food Safety System
  - 2.5.2. Global GAP Program Structure
  - 2.5.3. Scope of Global GAP Certification
  - 2.5.4. Structure of the Global Markets Program
  - 2.5.5. Scope of the Global Markets Program Certification
  - 2.5.6. Relation between Global GAP and Global Markets with Other Certifications

- 2.6. SQF Certification (Safe Quality Food)
  - 2.6.1. SQF Program Structure
  - 2.6.2. Scope of SQF Certification
  - 2.6.3. Relationship of SQF With Other Certifications
- 2.7. BRC Certification (British Retail Consortium)
  - 2.7.1. BRC Program Structure
  - 2.7.2. Scope of BRC Certification
  - 2.7.3. Relationship of BRC With Other Certifications
- 2.8. IFS Certification
  - 2.8.1. IFS Program Structure
  - 2.8.2. Scope of IFS Certification
  - 2.8.3. Relationship of IFS With Other Certifications
- 2.9. Food Safety System Certification 22000 (FSSC 22000)
  - 2.9.1. Background of the FSSC 22000 Program
  - 2.9.2. FSSC 22000 Program Structure
  - 2.9.3. Scope of FSSC 22000 Certification
- 2.10. Food Defence Programs
  - 2.10.1. The Concept of Food Defence
  - 2.10.2. Scope of a Food Defence Program
  - 2.10.3. Tools and Programs for Implementing a Food Defence Program

## Module 3. Validation of New Methodologies and Processes

- 3.1. Critical Control Points
  - 3.1.1. Significant Hazards
  - 3.1.2. Prerequisite Programs
  - 3.1.3. Critical Control Point Management Chart
- 3.2. Verification of a Self Control System
  - 3.2.1. Internal Audits
  - 3.2.2. Review of Historical Records and Trends
  - 3.2.3. Customer Complaints
  - 3.2.4. Detection of Internal Incidents

- 3.3. Monitoring, Validation and Verification of Control Points
  - 3.3.1. Surveillance or Monitoring Techniques
  - 3.3.2. Validation of Controls
  - 3.3.3. Efficiency Verification
- 3.4. Validation of Processes and Methods
  - 3.4.1. Documentary Support
  - 3.4.2. Validation of Analytical Techniques
  - 3.4.3. Validation Sampling Plan
  - 3.4.4. Method Bias and Accuracy
  - 3.4.5. Determining Uncertainty
- 3.5. Validation Methods
  - 3.5.1. Method Validation Stages
  - 3.5.2. Types of Validation Processes, Approaches
  - 3.5.3. Validation Reports, Summary of Data Obtained
- 3.6. Incident and Deviation Management
  - 3.6.1. Formation of the Work Team
  - 3.6.2. Description of the Problem
  - 3.6.3. Root Cause Determination
  - 3.6.4. Corrective and Preventive Actions
  - 3.6.5. Efficiency Verification
- 3.7. Root Cause Analysis and Its Methods
  - 3.7.1. Causal Analysis: Qualitative Methods
    - 3.7.1.1. Tree Causes Root
    - 3.7.1.2. Why
    - 3.7.1.3. Causes and Effect
    - 3.7.1.4. Ishikawa Diagram
  - 3.7.2. Cause Analysis: Quantitative Methods
    - 3.7.2.1. Data Collection Data Model
    - 3.7.2.2. Pareto Chart
    - 3.7.2.3. Scatter Plots
    - 3.7.2.4. Histograms
- 3.8. Claims Management
  - 3.8.1. Claim Data Collection
  - 3.8.2. Investigation and Action
  - 3.8.3. Preparation of Technical Report
  - 3.8.4. Claims Trend Analysis
- 3.9. Internal Audits of the Self-Control System
  - 3.9.1. Competent Auditors
  - 3.9.2. Audit Program and Plan
  - 3.9.3. Scope of the Audit
  - 3.9.4. Reference Documents
- 3.10. Executing Internal Audits
  - 3.10.1. Opening Meeting
  - 3.10.2. System Evaluation
  - 3.10.3. Deviations from Internal Audits
  - 3.10.4. Closing Meeting
  - 3.10.5. Evaluation and Monitoring of the Effectiveness of Deviation Closure

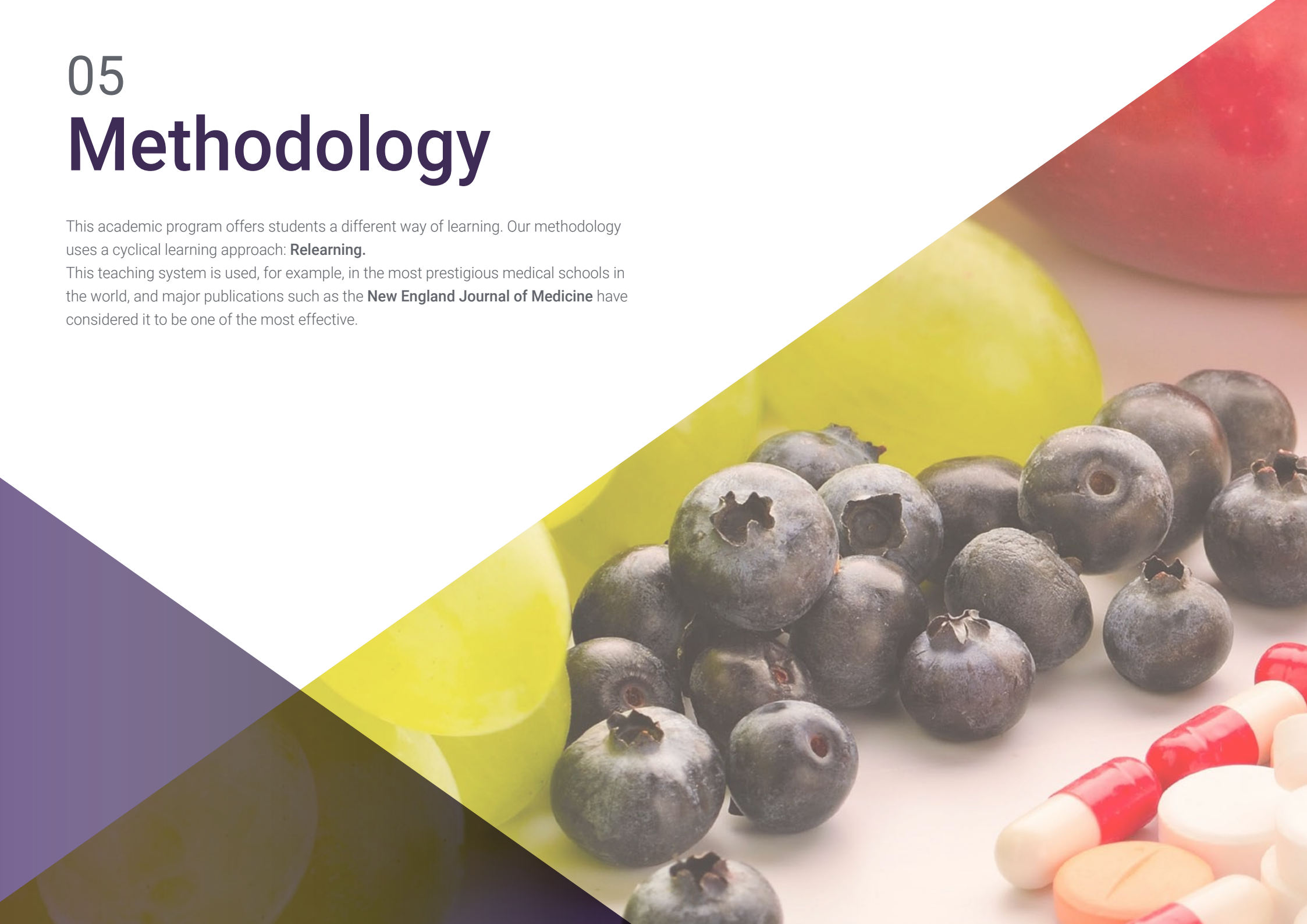


*A unique, key, and decisive educational experience to boost your professional development"*

# 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.





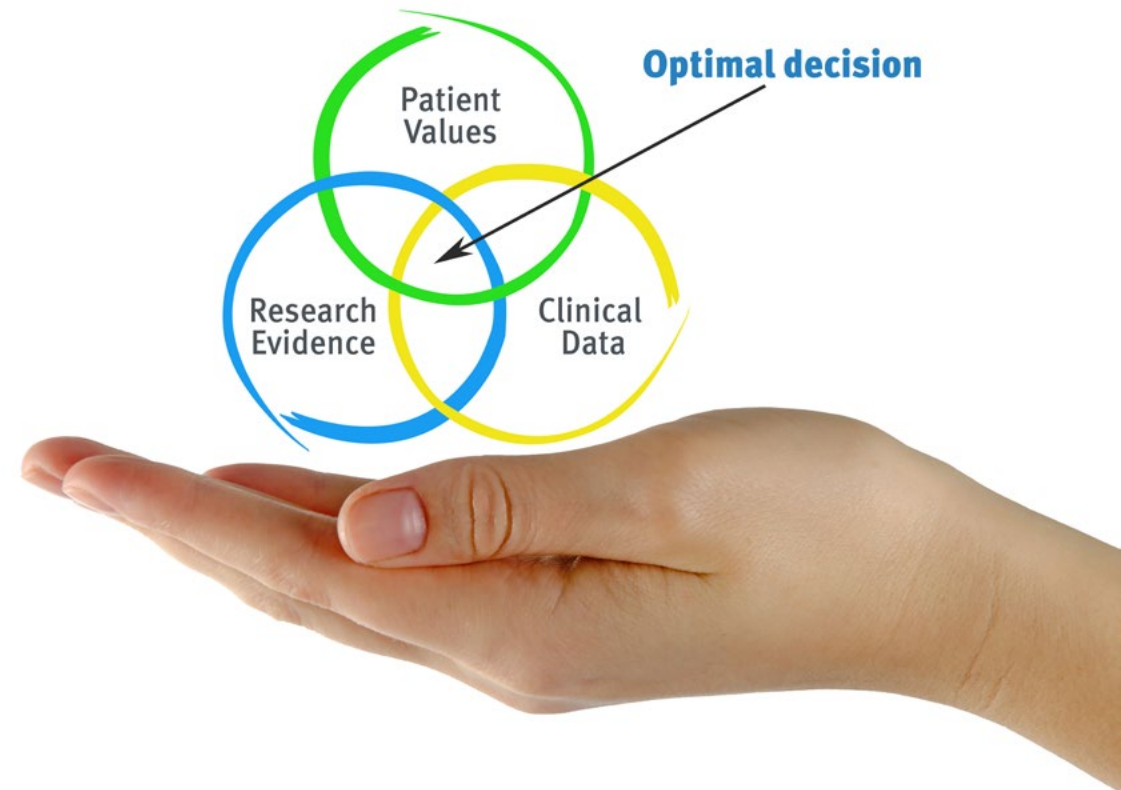
“

*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. Gervas, 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.



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*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.

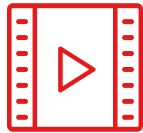
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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

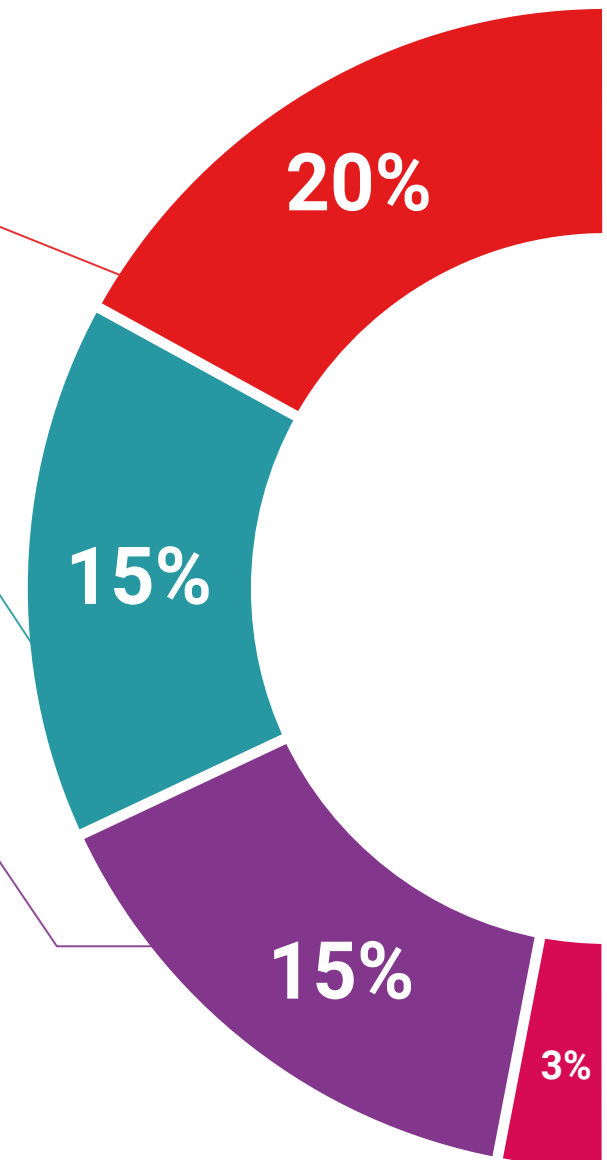
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

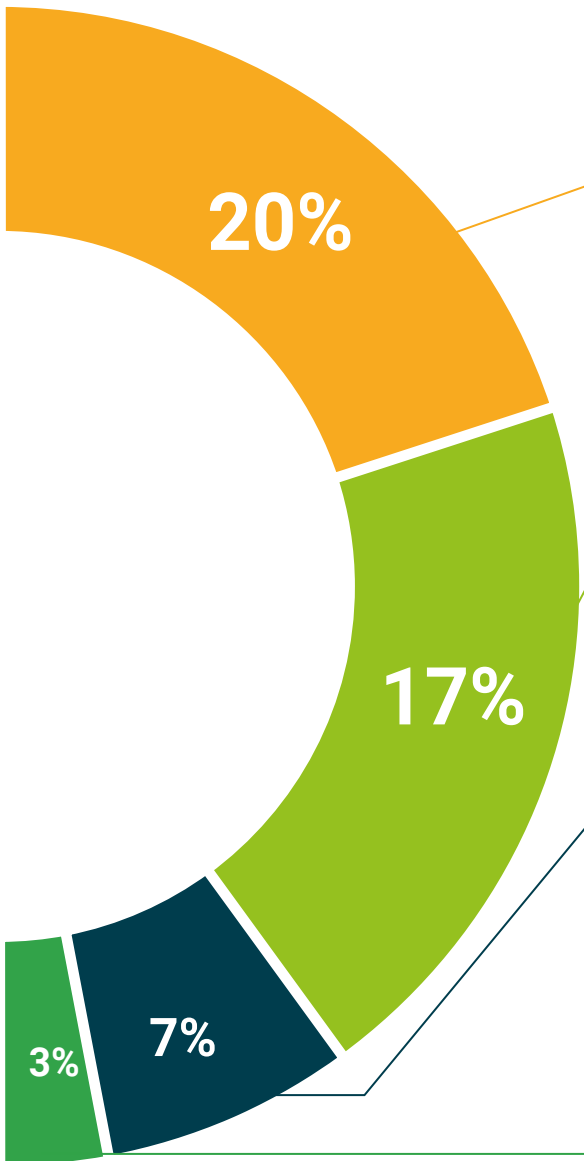
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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 Diploma in Process Management and Validation in the Food Sector guarantees students, in addition to the most rigorous and up to date education, access to a Postgraduate Diploma issued by TECH Technological University.





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

This **Postgraduate Diploma in Process Management and Validation in the Food Sector** contains the most complete and up to date scientific program on the market.

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

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

**Title: Postgraduate Diploma in Management and Validation of Processes in the Food Sector**

**Official N° of hours: 450 h.**



\*Apostille Convention. In the event that the student wishes to have their paper certificate 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



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