

Postgraduate Diploma

New Methodology Validation
and Industry Digitization in
Food Safety Management



Postgraduate Diploma New Methodology Validation and Industry Digitization in Food Safety Management

- » 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-new-methodology-validation-industry-digitalization-food-safety-management

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 16

05

Methodology

p. 22

06

Certificate

p. 30

01

Introduction

The program aims to teach professionals how to use technological fundamentals at a nutritional level, an essential basis to ensure the products we consume are healthy and safe. Our students will also learn about the latest food trends in the market. Designed by highly qualified personnel, it offers professionals an update to diversify their work tools, focusing on the advances and techniques used in the industry. Thus, they will be able to position themselves as top-level nutritionists.





“

Do not miss this great opportunity and add the latest developments in the food industry to your skills as a quality nutritionist through this prestigious course"

This TECH program is the most complete and specific in the online market, as it is aimed at the integral management of food safety, a concern of today's society. It describes the importance of the application of digital media and platforms in quality management systems in the food industry, with special emphasis on migration strategies from traditional to digital systems. It will also reinforce basic knowledge of traditional methods used to manage quality systems in the food industry by discussing the advantages of using commercial software or different in-house computer tools to increase the efficiency of programs such as Hazard Analysis and Critical Control Point.

Finally, the fundamental aspects that confirm that the critical control points are effective and are ensuring the safety of the food produced are reviewed, being clear about the need and correct formulation of the critical control points. Determines the tools necessary 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.

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*). They are also experts in food legislation and regulations on quality and safety, research and development of new foods and, finally, R&D&I project coordination and execution. In short, the program is an educational project committed to driving professionals towards excellence. A program designed by professionals specialized in the industry who face new challenges every day.

This **Postgraduate Diploma in New Methodology Validation and Industry Digitization in Food Safety Management** 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 at the nutritional level
- 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 Validation of New Methodologies and Industry Digitization in Food Safety Management
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies in Validation of New Methodologies and Industry Digitalization in Food Safety Management
- 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



A program specially designed to teach nutritionists all about new methodology validation and digitalization in the food industry"

“

With this program you will define the processes of migration from traditional to digital systems in food quality and safety management”

The program's teaching staff includes professionals in food safety from a nutritional perspective, who bring their experience to this training program, as well as renowned specialists from leading communities 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 specialization programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby students must try to solve the different professional practice situations that arise throughout the program. To that end, professionals will be assisted by an innovative, interactive video system created by renowned and extensively experienced experts in the food industry.

You will master prerequisite programs (PRP) and HACCP plans, and you will learn to monitor standardized operating programs (SOP).

Take a leap in your professional career and become an expert in food safety policies.



02 Objectives

This program in New Methodologies and Industry Digitization in Food Safety Management is aimed at facilitating professional performance based on the latest and most innovative advances in the industry. All this, from a digital and practical perspective so our students can focus their knowledge on the tools that currently dominate the market, while observing relevant policies. They will address the main interventions conducted by specialists in the area of food safety by validating the most appropriate methods to digitize the industry. They will ultimately be able to analyze all the competences in food safety to be applied at the nutritional level.



“

*This is the best option to learn
about the latest advances in
food safety at a nutritional level”*



General Objectives

- Analyze the principles of international food legislation and evolution to present day
- Analyze the competencies in food legislation to develop the corresponding functions in the food industry
- Evaluating food industry procedures and mechanisms of action
- Develop the basis for applying legislation to the development of food industry products
- Analyze the advantages of digitalization in the currently established food safety and quality management processes
- Develop specialized knowledge of the different commercial platforms and internal IT tools for process management
- Define the importance of a migration process from a traditional to a digital system in food quality and safety management
- Establish strategies for the digitalization of protocols and documents related to the management of different food quality and safety processes
- 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

Module 1. Food Legislation and Quality and Safety Regulations

- ♦ Define the fundamentals of food legislation
- ♦ Describe and develop the main international and European organizations in the field of food safety, as well as determine their competencies
- ♦ Analyze the food safety policy in the European frameworks
- ♦ Describe the principles, requirements and measures of food legislation
- ♦ Explain the European legislative framework regulating the food industry
- ♦ Identify and define the responsibility of the participants in the food chain
- ♦ Classify the types of liability and offenses in the field of food safety

Module 2. Digitization of the Quality Management System

- ♦ Examine the quality standards and food regulations as established by various international bodies
- ♦ Identify the main commercial software and internal IT strategies that enable the management of specific food safety and quality processes
- ♦ Establish appropriate strategies to transfer traditional quality management processes to digital platforms
- ♦ Define the key points in the digitization process of a Hazard Analysis and Critical Control Point (HACCP) program
- ♦ Analyze alternatives for the implementation of prerequisite programs (PRP), HACCP plans and monitoring of standardized operating programs (SOP)
- ♦ Analyze the most appropriate protocols and strategies for digitization in risk communication
- ♦ Develop mechanisms for digitalizing the management of internal audits, recording corrective actions and monitoring continuous improvement programs

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



This program is the best investment you can make to gear your food safety knowledge as a nutritionist toward digitization"

03

Course Management

The program includes in its teaching staff reference experts in Food Safety at a nutritional level, who pour into this course the experience of their professional practice. Additionally, other renown and prestigious experts have participated in its design and development to complete the program in an interdisciplinary way, and to offer our students quality education backed by the TECH methodology. All this, with the aim of specializing nutritionists and providing them with the necessary academic tools to successfully start working in this area. A commitment to the future that will boost your career in a booming industry.





“

Leading professionals in the field have come together to teach you the latest in food safety at a nutritional level”

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. 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

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

Dr. Martínez López, Sara

- ♦ Assistant Professor of Nutrition and Food Technology at the European University of Madrid
- ♦ Researcher in the research group "Microbiota, Food and Health". European University of Madrid
- ♦ D. in Pharmacy (Universidad Complutense de Madrid)
- ♦ Degree in Chemistry (University of Murcia)

Dr. Velderrain Rodríguez, Gustavo Rubén

- ♦ D. in Science. Center for Research in Food and Development, A.C. (CIAD)
- ♦ Member of the National System of Researchers of CONACyT (Mexico)

04

Structure and Content

The content on this Postgraduate Diploma has been designed and structured by the best professionals in the industry, who have with extensive experience and recognized prestige in the profession, backed by the volume of cases reviewed, studied and diagnosed, and who also have extensive knowledge of new technologies applied to food safety. Aware of the attention this area requires today, the syllabus is organized by perfectly defined points, ranging from food legislation and quality and safety regulations to be observed, to the digitization of quality management systems, with special emphasis on the processes involved. A sound basis that guarantees our students will acquire all the tools they need to work in this area of the food industry.






“

TECH offers nutritionists the most complete and up-to-date educational program on the market in Industry Digitization in Food Safety Management”

Module 1. Food Legislation and Quality and Safety Regulations

- 1.1. Introduction
 - 1.1.2. Basic Concepts
 - 1.1.2.1. Certification, etc.
- 1.2. International Food Legislation. International Organizations
 - 1.2.1. Food and Agriculture Organization of the United Nations (FAO)
 - 1.2.2. World Health Organisation (WHO)
 - 1.2.3. *Codex Alimentarius* Commission
 - 1.2.4. World Trade Organization
- 1.3. European Food Legislation
 - 1.3.1. European Food Legislation
 - 1.3.2. White Paper on Food Safety
 - 1.3.3. Principles of Food Legislation
 - 1.3.4. General Requirements of Food Legislation
 - 1.3.5. Procedures
 - 1.3.6. European Food Safety Authority (EFSA)
- 1.4. Food Safety Management in the company
 - 1.4.1. Responsibilities
 - 1.4.2. Authorization
 - 1.4.3. Certifications
- 1.5. Horizontal Food Legislation. Part 1
 - 1.5.1. General Hygiene Regulations
 - 1.5.2. Water for Public Consumption
 - 1.5.3. Official Control of Foodstuffs
- 1.6. Horizontal Food Legislation. Part 2
 - 1.6.1. Storage, Preservation and Transportation
 - 1.6.2. Materials in Contact with Food
 - 1.6.3. Food Additives and Flavorings
 - 1.6.4. Contaminants in Food



- 
- 1.7. Vertical Food Legislation: Products of Plant Origin
 - 1.7.1. Vegetables and By-Products
 - 1.7.2. Fruits and Derivatives
 - 1.7.3. Cereals
 - 1.7.4. Legumes
 - 1.7.5. Edible Vegetable Oils
 - 1.7.6. Edible Fats
 - 1.7.7. Seasonings and Spices
 - 1.8. Vertical Food Legislation: Animal Products
 - 1.8.1. Meat and Meat Derivatives
 - 1.8.2. Fish Products
 - 1.8.3. Milk and Dairy Products
 - 1.8.4. Eggs and Egg Products
 - 1.9. Vertical Food Legislation: Other Products
 - 1.9.1. Stimulant Foods and Derivatives
 - 1.9.2. Beverages
 - 1.9.3. Prepared Dishes

Module 2. Digitization of the Quality Management System

- 2.1. Quality Standards and Risk Analysis in the Food Industry
 - 2.1.1. Current Food Safety and Quality Standards
 - 2.1.2. Main Risk Factors in Food Products
- 2.2. The "Age of Digitization" and Its Influence on Global Food Safety Systems
 - 2.2.1. *Codex Alimentarius* Global Food Safety Initiative
 - 2.2.2. Hazard Analysis and Critical Control Point (HACCP)
 - 2.2.3. ISO 22000

- 2.3. Commercial Software for Food Safety Management
 - 2.3.1. Use of Smart Devices
 - 2.3.2. Business Software for Specific Management Processes
- 2.4. Establishment of Digital Platforms for the Integration of a Team Responsible for the Development of the HACCP Program.
 - 2.4.1. Stage 1. Preparation and Planning
 - 2.4.2. Stage 2. Implementation of Prerequisite Programs for Hazards and Critical Control Points of the HACCP program
 - 2.4.3. Stage 3. Execution of the Plan
 - 2.4.4. Stage 4. HACCP Verification and Maintenance
- 2.5. Digitization of Pre-requisite Programs (PRP) in the Food Industry - From Traditional to Digital Systems
 - 2.5.1. Primary Production Processes
 - 2.5.1.1. Good Hygiene Practices (GHP)
 - 2.5.1.2. Good Manufacturing Practices (GMP)
 - 2.5.2. Strategic Processes
 - 2.5.3. Operational Processes
 - 2.5.4. Support Processes
- 2.6. Platforms for Monitoring "Standard Operating Procedures (SOPs)"
 - 2.6.1. Training of Personnel in the Documentation of Specific SOPs
 - 2.6.2. Channels of Communication and Monitoring of SOP Documentation
- 2.7. Protocols for Document Management and Communication Between Departments
 - 2.7.1. Traceability Document Management
 - 2.7.1.1. Procurement Protocols
 - 2.7.1.2. Traceability of Raw Material Receipt Protocols
 - 2.7.1.3. Traceability of Warehouse Protocols
 - 2.7.1.4. Process Area Protocols
 - 2.7.1.5. Traceability of Hygiene Protocols
 - 2.7.1.6. Product Quality Protocols
 - 2.7.2. Implementation of Alternative Communication Channels
 - 2.7.2.1. Use of Storage Clouds and Restricted Access Folders
 - 2.7.2.2. Coding of Documents for Data Protection

- 2.8. Digital Documentation and Protocols for Audits and Inspections
 - 2.8.1. Management of Internal Audits
 - 2.8.2. Record of Corrective Actions
 - 2.8.3. Application of the "Deming cycle"
 - 2.8.4. Management of Continuous Improvement Programs
- 2.9. Strategies for Proper Risk Communication
 - 2.9.1. Risk Management and Communication Protocols
 - 2.9.2. Effective Communication Strategies
 - 2.9.3. Public Information and Use of Social Networks
- 2.10. Case Studies of Digitization and Its Advantages in Reducing Risks in the Food Industry
 - 2.10.1. Food Safety Risks
 - 2.10.2. Food Fraud Risks
 - 2.10.3. Food Defence Risks

Module 3. Validation of New Methodologies and Processes

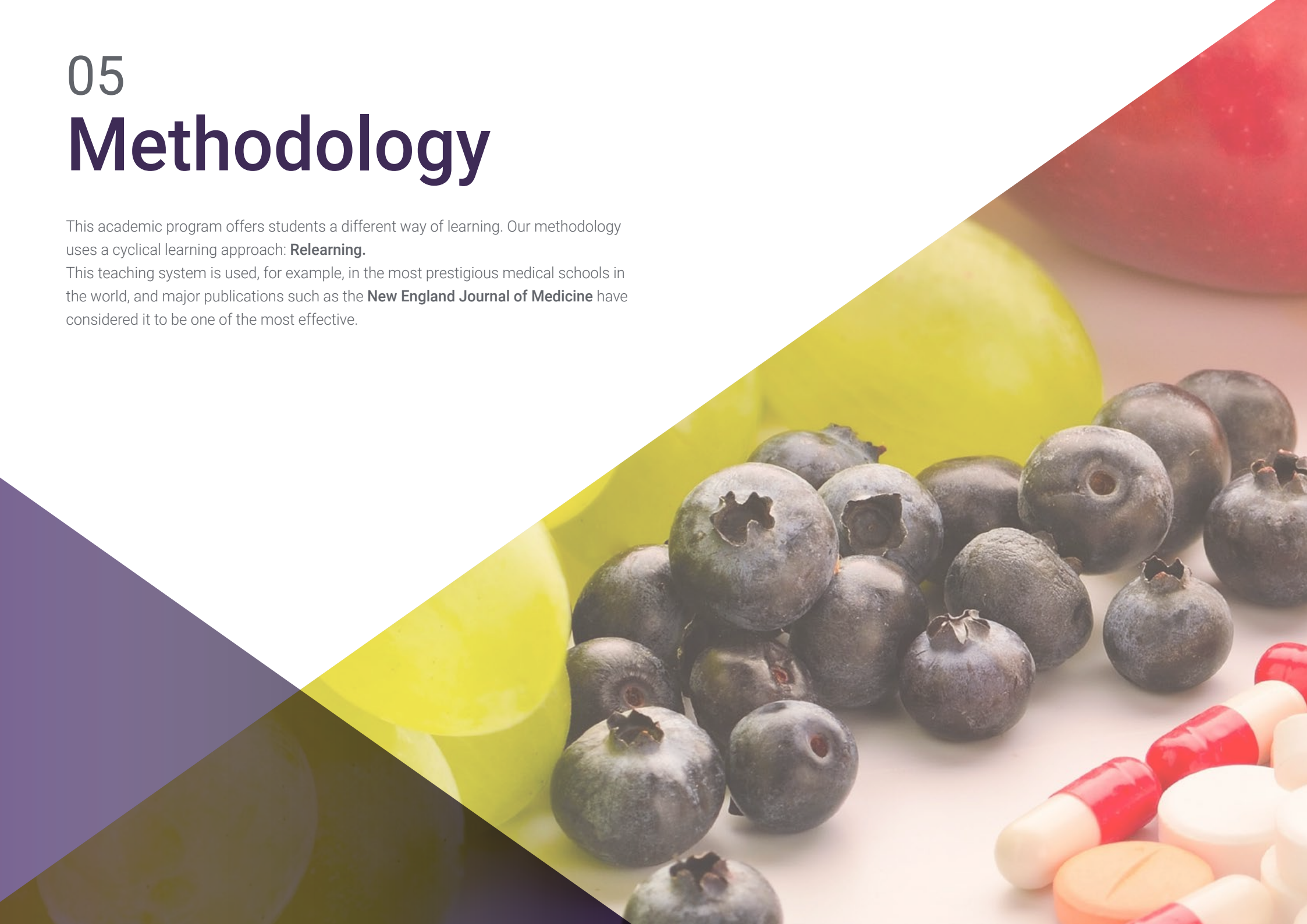
- 3.1. Critical Control Points
 - 3.1.1. Significant Hazards
 - 3.1.2. Prerequisite Programs
 - 3.1.3. Critical Control Point Management Chart
- 3.2. Verification of a Self-Control System
 - 3.2.1. Internal Audits
 - 3.2.2. Review of Historical Records and Trends
 - 3.2.3. Customer Complaints
 - 3.2.4.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

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

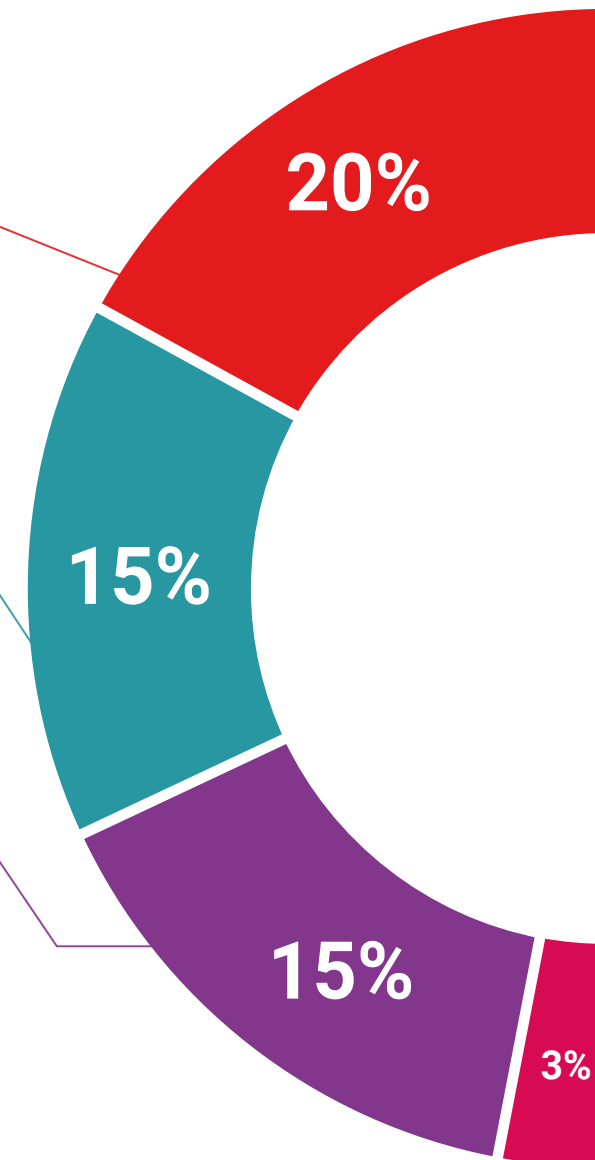
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 Diploma in New Methodologies and Industry Digitization in Food Safety Management guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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 Diploma in New Methodology Validation and Industry Digitization in Food Safety Management** 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 New Methodology Validation and Industry Digitization in Food Safety Management**

Official Number 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
community commitment
personalized service innovation
knowledge present
development languages
virtual classroom



Postgraduate Diploma

New Methodology Validation
and Industry Digitization in
Food Safety Management

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

Postgraduate Diploma

New Methodology Validation
and Industry Digitization in
Food Safety Management