



Postgraduate Diploma

Quality Control in Food Industries

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/veterinary-medicine/postgraduate-diploma/postgraduate-diploma-quality-control-food-industries

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01 Introduction

Veterinary food safety is paramount to protect human health, so it is necessary to invest in research and training in this field. On this occasion, this Postgraduate Diploma focuses on the study of the main quality controls that have to be carried out in the food industries. The student can take advantage of the opportunity and acquire a solid knowledge in this field that will allow them to become a successful professional.



tech 06 | Introduction

This Postgraduate Diploma in Quality Control in Food Industries will allow the student to learn the most relevant concepts in veterinary food safety, focusing on the production of raw materials of animal origin.

Quality control of processes and products is essential to ensure food safety and guarantee the safety of the processes carried out in the food industry It is therefore important for professionals in the sector to specialize in this area, which covers the entire animal food production chain. This makes it mandatory for all food industries to have a food safety plan.

On the other hand, 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 those products that could represent a food safety risk and a danger to the health of the population. Therefore, this is another of the essential points of this training.

The Postgraduate Diploma in Quality Control in Food Industries from TECH Technological University is the most complete postgraduate rogram offered in universities at this time because it is aimed at the comprehensive management of food safety. It covers all the necessary aspects to achieve a specialized, complete training, demanded by professionals in the food sector.

This Postgraduate Diploma 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, 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, research and development of new foods and finally, the coordination and execution of R&D&I projects.

This program has been designed to respond to the demand of diverse professional profiles and professional disciplines such as basic sciences, experimental sciences and engineering, social sciences and the field of new technologies. In addition, it is focused on understanding and learning technical, management and project execution competencies, as well as the development of skills required by a competitive, innovative and modern food sector.

It is an educational project committed to training high quality professionals. A program designed by professionals specialized in each specific subject who face new challenges every day.

This **Postgraduate Diploma in Quality Control in Food Industries** contains the most complete and up-to-date educational program on the market. The most important features of the program include:

- The development of case studies presented by experts in veterinary food safety.
- 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 Quality Control in Food Industries
- Practical exercises where self-assessment can be used to improve learning.
- Its special emphasis on innovative methodologies in Quality Control 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



It's the perfect opportunity to advance your career. Our educational project seeks to train high quality professionals"

Introduction | 07 tech



This Postgraduate Diploma is the best investment you can make in the selection of a refresher program to update your knowledge in Quality Control in Food Industries"

It includes, in its teaching staff, professionals belonging to the field of veterinary food safety, who pour into this training the experience of their work, in addition to recognized specialists from reference 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 training programmed to train in real situations.

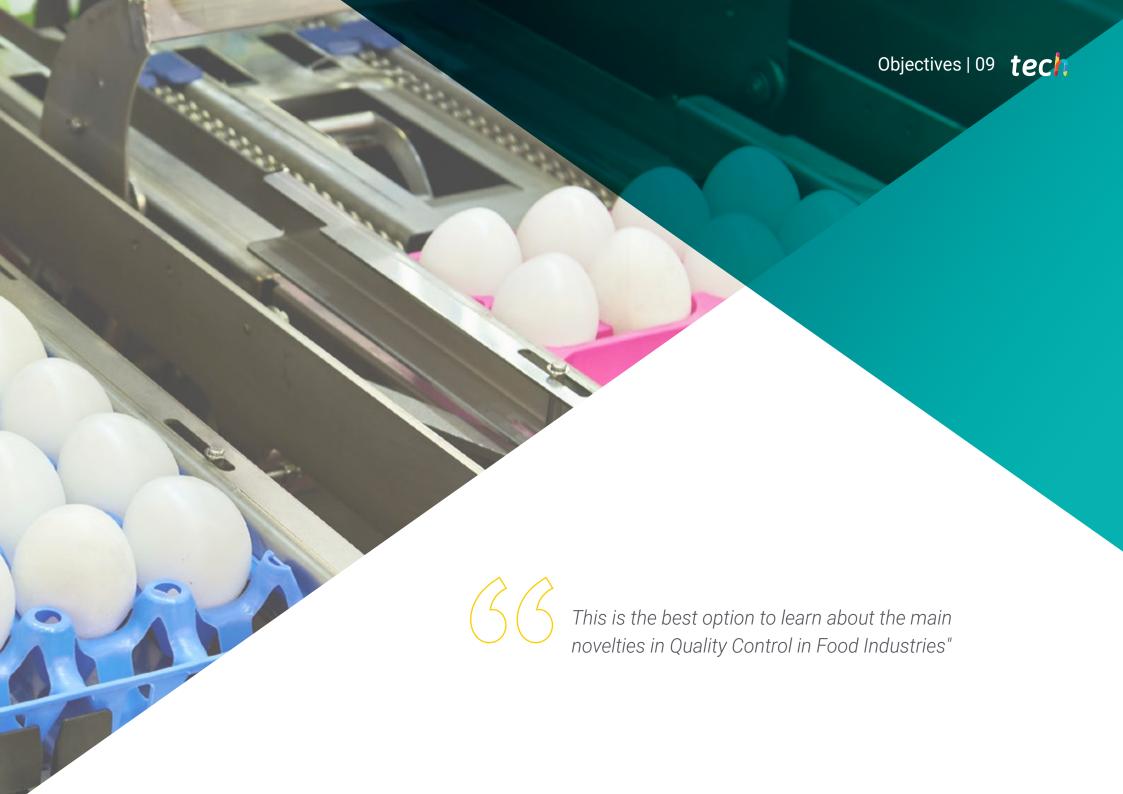
This program is designed around Problem Based Learning, where the specialist must try to solve the different professional practice situations that arise during the course. For this purpose, the professional will be assisted by an innovative interactive video system developed by renowned and experienced experts in Quality Control in Food Industries.

We have the best didactic material and the most current teaching methodology, which will allow you a contextual study that will facilitate your learning.

This 100% online Postgraduate Diploma will allow you to combine your studies with your professional work. You will be able to study from any device with an internet connection and at the time you choose.







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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
- Examine the regulations and standards for food laboratories and define their role in food safety
- Analyze food safety regulations and standards applicable to raw materials and products in food laboratories
- Determine the requirements to be met by food analysis laboratories (ISO IEC 17025 Standard, applicable to the accreditation and certification of quality systems in laboratories)
- Recognize the consumer's right to acquire safe, healthy and innocuous food from the agrifood chain, both nationally and internationally
- 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

Module 1.

- 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

Module 2.

- Establish the quality characteristics to be met by raw materials, intermediate and finished products according to their origin, prior to their laboratory analysis
- Develop the relevant methodology for product conformity, taking into account the applicable requirements considered by the regulations and standards
- Define the most appropriate methodology for food quality assessment: integrity analysis and characterization, including the detection of biotic or abiotic food contaminants that may pose a health risk to consumers
- Describe food sampling depending on source, use and characteristics or specifications.
- Identify and recognize the analytical techniques used in food and manage an adequate quality control
- Describe the main agri-food contaminants and learn about the application of analytical techniques by observing the sector to which they belong
- Outline the process for identifying and ensuring the safety of raw materials, processed foods and the suitability of water in the production of safe products for food and feed

Module 3.

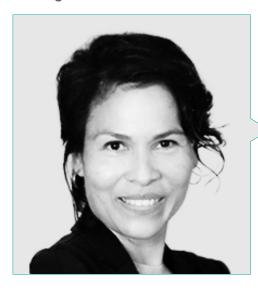
- · Define the background of logistics and traceability
- Examine the different types of traceability and scope of application
- Analyze the principles, requirements and measures of food legislation in the context of traceability
- Establishing the scope of application of traceability in its mandatory 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





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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 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. Moreno Fernández, Silvia

- 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
- Postdoctoral Researcher. Autonomous University of Madrid. Since 2019

Ms. Escandell Clapés, Erica

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

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

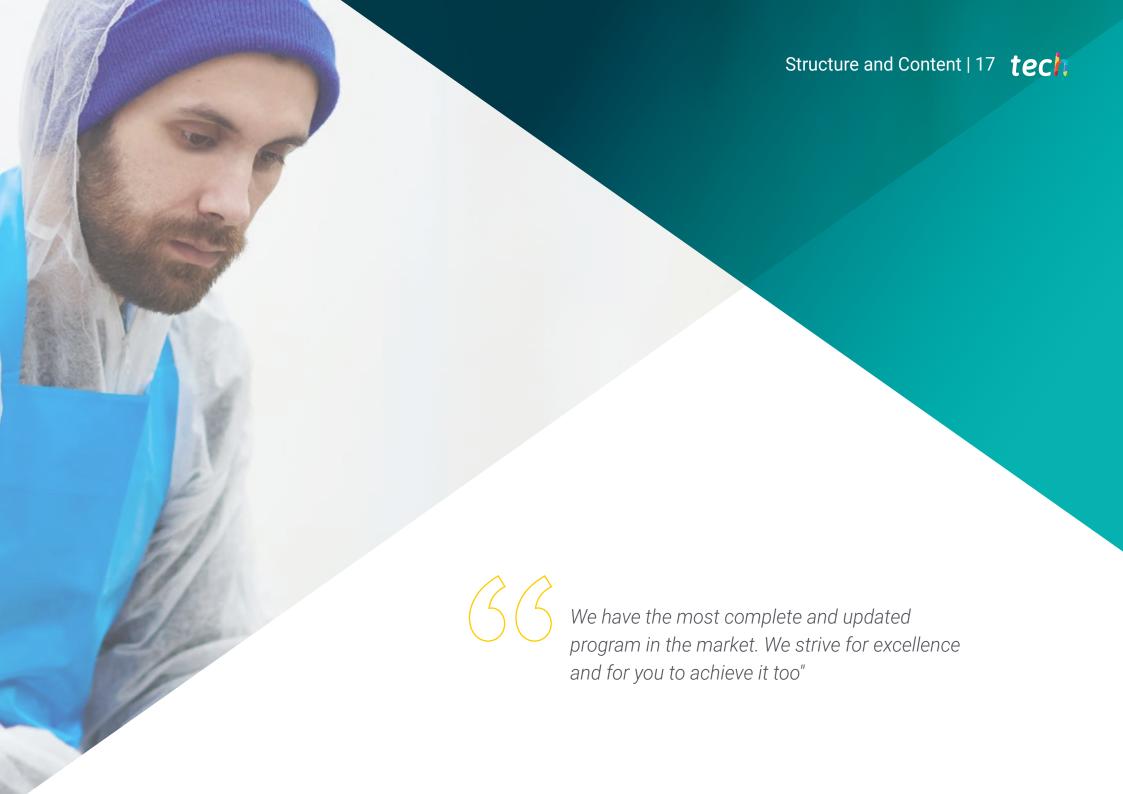
Dr. Colina Coca, Clara

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



Structure and Content





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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.
 - 1.1.3. Traceability Concept and Application in the Food Industry
- 1.2. General Hygiene Plan.
 - 1.2.1. Basic Concepts.
 - 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. Analytical and Instrumental Techniques in Process and Product Quality Control

- 2.1. Laboratory Types, Regulations and Standards
 - 2.1.1. Reference Laboratories
 - 2.1.1.1 European Reference Laboratory
 - 2.1.1.2 National Reference Laboratories
 - 2.1.2. Food Laboratory
 - 2.1.3. Regulations and Standards Applicable to Laboratories (ISO/IEC 17025)
 - 2.1.3.1 General Requirements for Laboratory Competence
 - 2.1.3.2 Equipment Testing and Calibration
 - 2.1.3.3 Implementation and Validation of Analytical Methods.
- 2.2. Official Control of the Agri-Food Chain
 - 2.2.1. PNCPA of the Agri-Food Chain
 - 2.2.2. Competent Authorities
 - 2.2.3. Legal Support for Official Control
- 2.3 Official Methods of Food Analysis
 - 2.3.1. Methods of Animal Feed Analysis
 - 2.3.2. Water Analysis Methods
 - 2.3.2.1 Analytical Requirements According to R.D. 140/2003.
 - 2.3.2.2 Sampling Frequencies According to Type of Industry.
 - 2.3.3. Methods of Analysis of Cereals.
 - 2.3.4. Methods of Analysis of Fertilizers, Residues of Phytosanitary and Veterinary Products.



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2.3.5.	Methods	of Analy	sis of	Food	Products
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- 2.3.6. Methods of Analysis of Meat Products
- 2.3.7. Fat Analysis Methods
- 2.3.8. Methods of Analysis of Dairy Products
- 2.3.9. Methods of Analysis of Wines, Juices and Musts
- 02/03/2010 Methods of Analysis of Fishery Products
- 2.4. On-Site Analytical Techniques for Fresh Food Receiving, Processing and Finished Product
 - 2.4.1. In Food Handling
 - 2.4.1.1 Analysis of Environments and Surfaces
 - 2.4.1.2 Handler Analysis
 - 2.4.1.3 Equipment Analysis
 - 2.4. 2. Analysis of Dresh Feed and Finished Product
 - 2.4.2.1 Product Data Sheets
 - 2.4.2.2 Visual Inspection
 - 2.4.2.3 Color Charts
 - 2.4.2.4 Organoleptic Evaluation According to the Type of Food
 - 2.4.3. Basic Physicochemical Analysis
 - 2.4.3.1 Determination of Maturity Index in Fruit
 - 2.4.3.2 Firmness
 - 2.4.3.3 Brix Degrees
- 2.5. Nutritional Analysis Techniques
 - 2.5.1. Determination of Proteins
 - 2.5.2. Determination of Carbohydrates
 - 2.5.3. Determination of Fats
 - 2.5.4 Ash Determination
- 2.6. Microbiological and Physicochemical Food Analysis Techniques
 - 2.6.1. Preparation Techniques: Fundamentals, Instrumentation and Application in Food Processing
 - 2.6.2. Microbiological Analysis
 - 2.6.2.1 Handling and Treatment of Samples for Microbiological Analysis
 - 2.6.3. Physical-Chemical Analysis
 - 2.6.3.1. Handling and Treatment of Samples for Physical-Chemical Analysis

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2.7	Instrumental Techniques in Food Analysis				
	2.7.1.	Characterization, Quality Indexes and Product Conformity			
		2.7.1.1 Food Safety/Food Integrity			
	2.7.2.	Analysis of Residues of Prohibited Substances in Food			
		2.7.2.1 Organic and Inorganic Waste			
		2.7.2.2 Heavy Metals			
		2.7.2.3 Additives			
	2.7.3.	Analysis of Adulterant Substances in Foodstuffs			
		2.7.3.1 Milk			
		2.7.3.2 Wine			
		2.7.3.3 Honey			
2.8.	Analytical Techniques Used in GMOs and Novel Foods				
	2.8.1.	Concept			
	2.8.2.	Detection Techniques			
2.9.	Emerging Analytical Techniques to Prevent Food Fraud				
	2.9.1.	Food Fraud			
	2.9.2.	Food Authenticity			
2.10.	Issuance of Certificates of Analysis				
	2.10.1.	In the Food Industry			
		2.10.1.1 Internal Report			
		2.10.1.2 Reporting to Customers and Suppliers			
		2.10.1.3 Bromatological Expertise			
		In Reference Laboratories			
	2.10.3.	In Food Laboratories			
	2.10.4.	In Arbitration Laboratories			
Mod	ule 3. L	ogistics and Batch Traceability			

- 3.1. Introduction to Traceability
 - 3.1.1. Background to the Traceability System
 - 3.1.2. Traceability Concept
 - 3.1.3. Types of Traceability
 - 3.1.4. Information Systems
 - 3.1.5. Advantages of Traceability

- 3.2. Legal Framework for Traceability. Part I
 - 3.2.1. Introduction
 - 3.2.2. Horizontal Legislation Related to Traceability
 - 3.2.3. Vertical Legislation Related to Traceability
- 3.3. Legal Framework for Traceability. Part II
 - 3.3.1. Mandatory Application of the Traceability System
 - 3.3.2. Objectives of the Traceability System
 - 3.3.3. Legal Responsibilities
 - 3.3.4. Penalty Regime
- 3.4. Implementation of the Traceability Plan
 - 3.4.1. Introduction
 - 3.4.2. Previous Stages
 - 3.4.3. Traceability Plan
 - 3.4.4. Product Identification System
 - 3.4.5. System Test Methods
- 3.5. Product Identification Tools
 - 3.5.1. Hand Tools
 - 3.5.2. Automated Tools
 - 3.5.2.1 EAN Bar Code
 - 3.5.2.2 RFID/// EPC
 - 3.5.3. Records
 - 3.5.3.1 Registration Identification of Raw Materials and other Materials
 - 3.5.3.2 Registration of Food Processing
 - 3.5.3.3 Final Product Identification Record
 - 3.5.3.4 Recording of the Results of Checks Performed
 - 3.5.3.5 Record Keeping Period
- 3.6. Incident Management, Product Recall and Reclamation and Customer Complaints
 - 3.6.1. Incident Management Plan
 - 3.6.2. Manage Customer Complaints





- 3.7. Supply Chain
 - 3.7.1. Definition
 - 3.7.2. Supply Chain Steps
 - 3.7.3. Supply Chain Trends
- 3.8. Logistics
 - 3.8.1. The Logistical Process
 - 3.8.2. Supply Chain vs. Logistics
 - 3.8.3. Containers
 - 3.8.4. Packaging
- 3.9. Modes and means of Transportation
 - 3.9.1. Transportation Concept
 - 3.9.2. Modes of Transport, Advantages and Disadvantages
- 3.10. Food Product Logistics
 - 3.10.1. Cold Chain
 - 3.10.2. Perishable Products
 - 3.10.3 Non-Perishable Products



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



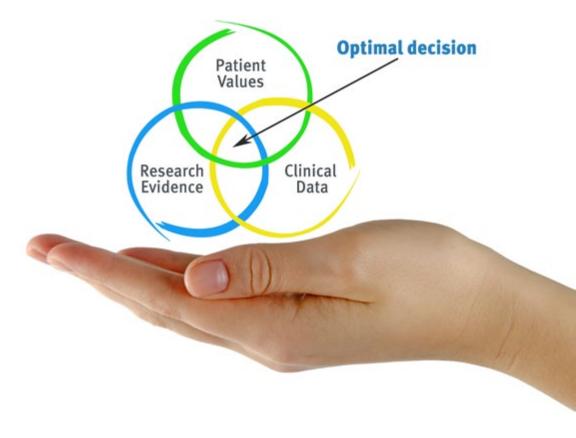


tech 24 | Methodology

At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, 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 you will 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, in an attempt to recreate the actual conditions in a veterinarian's professional 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. Veterinarians who follow this method not only manage to assimilate concepts, but also develop their mental capacity through exercises to evaluate real situations and knowledge application.
- 2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
- 3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
- **4.** The feeling that the effort invested is effective becomes a very important motivation for veterinarians, which translates into a greater interest in learning and an increase in the time dedicated to working on the course.



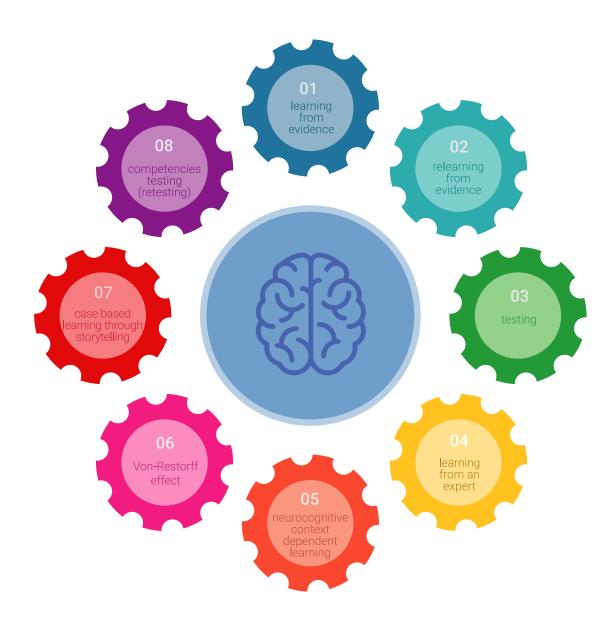


Relearning Methodology

At TECH we enhance the Harvard 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.

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





Methodology | 27 tech

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 65,000 veterinarians have been trained with unprecedented success in all clinical specialties, regardless of the surgical load. Our teaching method is developed in a highly demanding environment, where the students have a high 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.



Latest Techniques and Procedures on Video

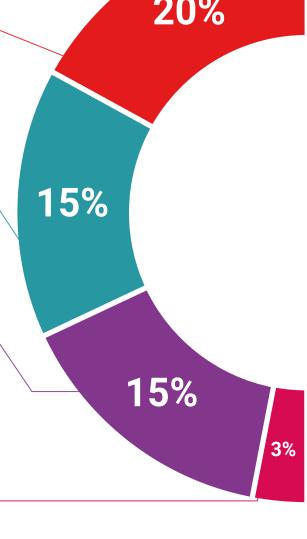
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current and procedures of veterinary techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch 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 multimedia content presentation training Exclusive system 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 ntextual. Therefore, TECH presents real cases students, focusing on and solving the different

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 your goals.

Classes



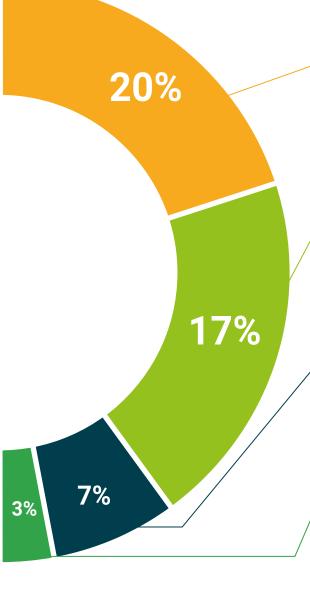
There is scientific evidence suggesting that observing third-party experts can be useful.

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.







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This **Postgraduate Diploma in Quality Control in Food Industries** contains the most complete and up-to-date scientific program on the market.

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

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

Title: Postgraduate Diploma in Quality Control in Food Industries

Official N° of Hours: 450 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
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education information tutors
guarantee accreditation teaching
institutions technology learning



Postgraduate Diploma Quality Control in Food Industries

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

