

# Postgraduate Certificate

Implementation of R&D&I Projects in  
Food Quality and Safety





## Postgraduate Certificate Implementation of R&D&I Projects in Food Quality and Safety

- » Modality: online
- » Duration: 12 weeks
- » Certificate: TECH Global University
- » Credits: 12 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/veterinary-medicine/postgraduate-certificate/implementation-rdi-projects-food-quality-safety](http://www.techtute.com/us/veterinary-medicine/postgraduate-certificate/implementation-rdi-projects-food-quality-safety)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 18*

05

Methodology

---

*p. 22*

06

Certificate

---

*p. 30*

01

# Introduction

Innovation in the food sector is booming. New products and foods are becoming increasingly available to help us lead a healthier life, but we must be very familiar with all the processes so that all the sanitary guarantees of quality and safety are met. 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.



“

*Specialize in Implementing R&D&I Projects in Food Quality and Safety to help protect the quality and safety of the food we eat"*



The Postgraduate Certificate in Implementation of R&D&I Projects in Food Quality and Safety of TECH Global University is the most complete among the postgraduate training offered in universities at this time because it is aimed at the comprehensive management of food safety.

Food legislation is a highly relevant aspect prior to the commercialization of any product derived from the food industry. Therefore, this Postgraduate Certificate offers the student a broad knowledge of the current regulations concerning food quality and safety, both nationally and internationally. Throughout of training, the student will be introduced to the legal instrument necessary to legislate in the food area, applicable to both natural and processed products.

As a result, the student will know in depth the Food Law and the applicable standardization in food matters, as well as the legislative structure, being able to apply and advise in the different companies of the sector.

This course also studies the implementation and development of R&D projects in the food field. It defines the economic support systems for the implementation of the projects, the legal conditions and, especially, the methodology for the operation of the projects in terms of planning, availability of resources, control and follow-up.

The adaptation to project work in the food environment is of great importance to carry out innovation, the development of new products or the improvement of food safety conditions and the use of food products and ingredients used.

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 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.

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 Certificate in Implementation of R&D&I Projects in Food Quality and Safety** contains the most complete and up-to-date scientific 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 eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice.
- ♦ News on the Implementation of R&D&I Projects in Food Quality and Safety.
- ♦ Practical exercises where self-assessment can be used to improve learning.
- ♦ Special emphasis on innovative methodologies in the Implementation of R&D&I Projects in Food Quality and Safety.
- ♦ 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



*Do not miss the opportunity to do with us this Postgraduate Certificate in Implementation of R+D+i Projects in Food Quality and Safety. It's the perfect opportunity to advance your career".*

“

*This Postgraduate Certificate is the best investment you can make in the selection of a refresher program to update your knowledge in the Implementation of R&D&I Projects in Food Quality and Safety”*

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 recognized experts in the Implementation of R&D&I Projects in Food Quality and Safety and with great experience.

*This training comes with the best didactic material, providing you with a contextual approach that will facilitate your learning.*

*This 100% online Postgraduate Certificate will allow you to combine your studies with your professional work while increasing your knowledge in this field.*



# 02 Objectives

The Postgraduate Certificate in Implementation of R&D&I Projects in Food Quality and Safety is aimed at facilitating the professional's performance with the latest and most innovative advances in the sector.







“

*This is the best option to learn about the latest advances in the Implementation of R&D&I projects in Food Quality and Safety”.*



## General Objectives

---

- ♦ Analyze the principles of food legislation, at national and international level, and its evolution up to the 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
- ♦ Determine the functioning of R&D&I systems in the field of new product and process development in the food environment
- ♦ Analyze the R&D&I system and the use of tools for planning, management, evaluation, protection of results and dissemination of food R&D&I
- ♦ Acquire knowledge that provides a basis or opportunity for the development and/or application of ideas, in a research context, including reflections on the responsibilities associated with the application of their developments





## Specific Objectives

---

### Module 1.

- ♦ Define the fundamentals of food law
- ♦ Describe and develop the main international, European and national organizations in the field of food safety, as well as determine their competencies
- ♦ Analyze the food safety policy in the European and Spanish 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
- ♦ Develop the criteria for horizontal legislation in Spain
- ♦ Develop vertical legislation criteria in Spain

### Module 2.

- ♦ Establish R&D&I systems that enable the development of novel foods and ingredients especially in food safety issues, so that they can address research, development and innovation in the field of novel foods and ingredients
- ♦ Compile the sources of financing for R&D&I activities in the development of new food products that allow different innovation strategies in the food industry to be addressed
- ♦ Analyze the forms of access to public and private sources of information in the scientific-technical, economic and legal fields for the planning of an R&D&I project
- ♦ Develop methodologies for project planning and management, control reporting and monitoring of results
- ♦ Evaluate the technology transfer systems that allow the transfer of R&D&I results to the productive environment
- ♦ Analyze the implementation of projects once their documentation stage has been completed



*A unique, key, and decisive training experience to boost your professional development”*

03

# Course Management

The program includes in its teaching staff leading experts in Veterinary Food Safety who bring to this training 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.







“

*Our team of teachers, specialists in food safety, will help you achieve success in your profession"*



## 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 polygalaturonase 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 John

---

- 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

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

### Dr. Martínez López, Sara

- ◆ D. in Pharmacy (Universidad Complutense de Madrid)
- ◆ Degree in Chemistry (University of Murcia)
- ◆ 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

### Dr. Rendueles de la Vega, Manuel

- ◆ D. in Chemical Engineering, Professor of Chemical Engineering (University of Oviedo)
- ◆ Coordinator of the Master in Food Biotechnology at the University of Oviedo since 2013
- ◆ Principal investigator in three projects of the National R&D Plan. Since 2004



# 04

# Structure and Content

The content structure has been designed by the best professionals in the sector, with extensive experience and recognized prestige in the profession, backed by the volume of cases reviewed, studied and diagnosed, and with extensive knowledge of new technologies applied to food safety.







“

*We have the most complete and up-to-date academic program in the market. We strive for excellence and for you to achieve it too.”*

## Module 1. Food Legislation and Quality and Safety Standards

- 1.1. Introduction
  - 1.1.1. Legal Organization
  - 1.1.2. Basic Concepts
    - 1.1.2.1. Law
    - 1.1.2.2. Legislation
    - 1.1.2.3. Food legislation
    - 1.1.2.4. Standard
    - 1.1.2.5. Royal Decree
    - 1.1.2.6. Certifications, 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. Spanish Food Legislation
  - 1.4.1. Skills
  - 1.4.2. Organizations
- 1.5. Food Safety Management in the company
  - 1.5.1. Responsibilities
  - 1.5.2. Authorization
  - 1.5.3. Certifications
- 1.6. Horizontal Food Legislation. Part 1:
  - 1.6.1. General Hygiene Regulations
  - 1.6.2. Water for Public Consumption
  - 1.6.3. Official Control of Foodstuffs
- 1.7. Horizontal Food Legislation. Part 2:
  - 1.7.1. Storage, Preservation and Transportation
  - 1.7.2. Materials in Contact with Food
  - 1.7.3. Food Additives and Flavorings
  - 1.7.4. Contaminants in Food
- 1.8. Vertical Food Legislation: Products of Plant Origin
  - 1.8.1. Vegetables and By-Products
  - 1.8.2. Fruits and Derivatives
  - 1.8.3. Cereals
  - 1.8.4. LegumesL
  - 1.8.5. Edible Vegetable Oils
  - 1.8.6. Edible Fats
  - 1.8.7. Seasonings and Spices
- 1.9. Vertical Food Legislation: Animal Products
  - 1.9.1. Meat and Meat Derivatives
  - 1.9.2. Fish Products
  - 1.9.3. Milk and Dairy Products
  - 1.9.4. Eggs and Egg Products
- 1.10. Vertical Food Legislation: Other Products
  - 1.10.1. Stimulant Foods and Derivatives
  - 1.10.2. Beverages
  - 1.10.3. Prepared Dishes

**Module 2. Development, Coordination and Execution of R&D&I Projects**

- 2.1. Innovation and Competitiveness in the Food Industry
  - 2.1.1. Analysis of the Food Sector
  - 2.1.2. Innovation in Processes, Products and Management
  - 2.1.3. Regulatory Conditions for the Marketing of Novel Foods
- 2.2. The R&D System
  - 2.2.1. Public Investigation and Private Investigation
  - 2.2.2. Regional and Local Business Support Plans
  - 2.2.3. National R&D&I Plans
  - 2.2.4. International Programs
  - 2.2.5. Research Promotion Organizations
- 2.3. R&D&I Projects
  - 2.3.1. R&D&I Aid Programs
  - 2.3.2. Types of Projects
  - 2.3.3. Types of Financing
  - 2.3.4. Project Evaluation, Monitoring and Control
- 2.4. Scientific and Technological Production
  - 2.4.1. Publication, Dissemination and Diffusion of Research Results
  - 2.4.2. Basic Research/Applied Research
  - 2.4.3. Private Sources of Information
- 2.5. Technology Transfer
  - 2.5.1. Protection of Industrial Property. Patents
  - 2.5.2. Regulatory Constraints on Transfers in the Food Sector
  - 2.5.3. *European Food Safety Authority (EFSA)*
  - 2.5.4. *Food and Drug Administration (FDA)*
  - 2.5.5. National Organizations. Example: Spanish Agency for Food Safety and Nutrition (AESAN)
- 2.6. Planning of R&D&I Projects
  - 2.6.1. Work Decomposition Scheme
  - 2.6.2. Resource Allocation
  - 2.6.3. Priority of Tasks
  - 2.6.4. Gantt Chart Method
  - 2.6.5. Digitally Supported Planning Methods and Systems
- 2.7. Documentary Development of R&D&I Projects
  - 2.7.1. Prior Studies
  - 2.7.2. Delivery of Progress Reports
  - 2.7.3. Development of the Project Report
- 2.8. Project Execution
  - 2.8.1. *Checklist*
  - 2.8.2. Deliverables
  - 2.8.3. Project Progress Control
- 2.9. Project Delivery and Validation
  - 2.9.1. ISO Standards for the Management of R&D&I Projects
  - 2.9.2. Completion of the Project Phase
  - 2.9.3. Analysis of Results and Feasibility
- 2.10. Implementation of R&D&I Projects Developed by the Company
  - 2.10.1. Purchase Management
  - 2.10.2. Supplier Validation
  - 2.10.3. Project Validation and Verification



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

# 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

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.*





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

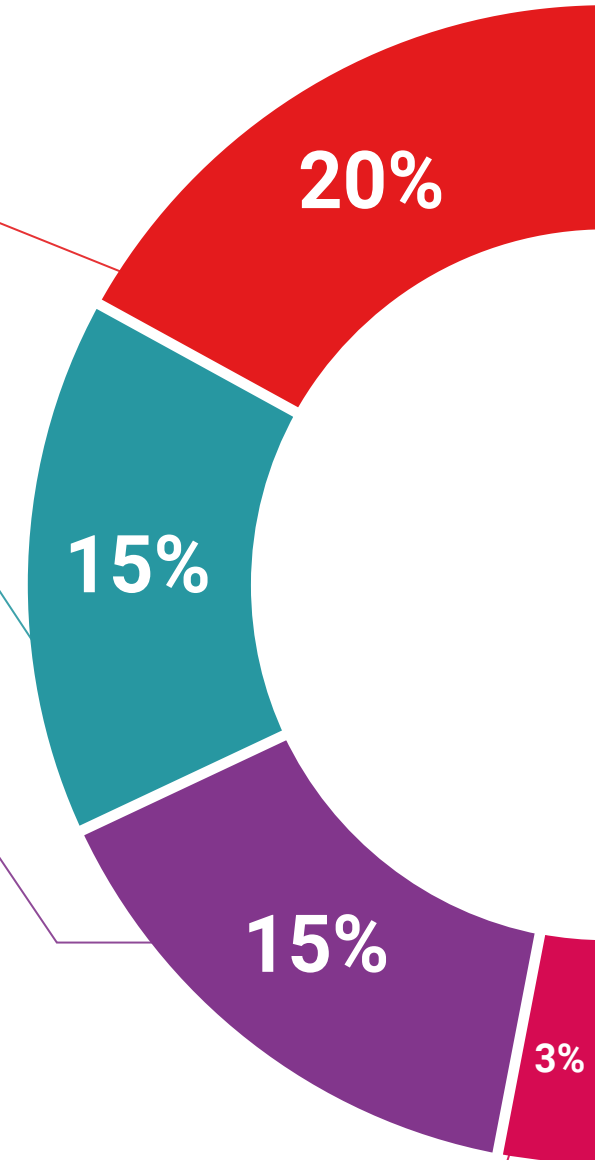
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

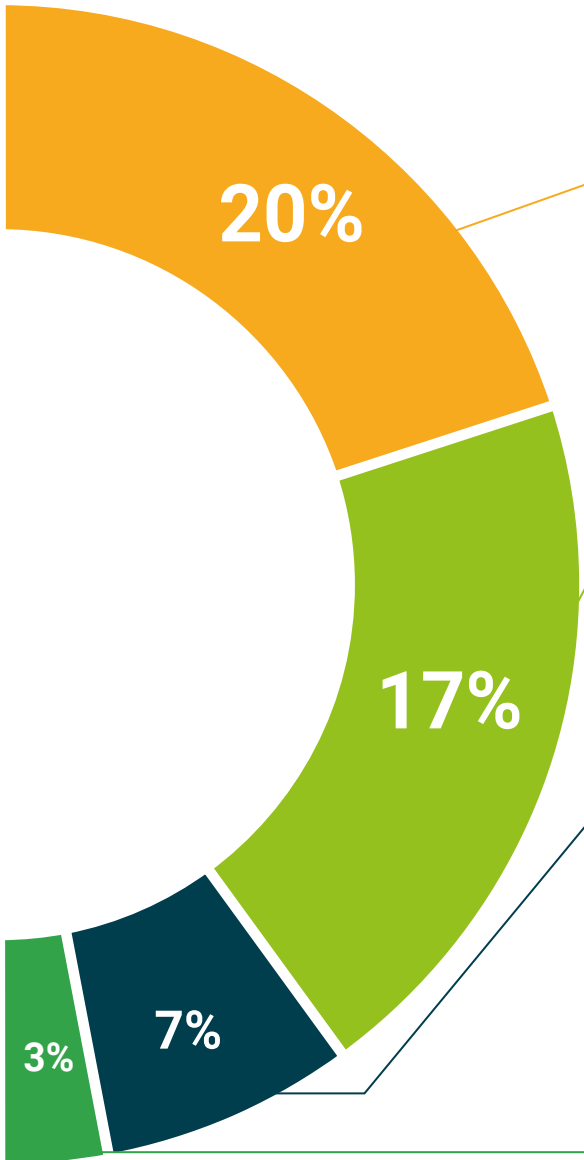


#### Additional Reading

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 Food Industry Traceability guarantees, in addition to the most rigorous and up-to-date training, access to a diploma issued by TECH Global University.



“

*Include in your training a Diploma in Implementation of R&D&I Projects in Food Quality and Safety: a highly qualified added value for any professional in this area"*

This program will allow you to obtain your **Postgraduate Certificate in Implementation of R&D&I Projects in Food Quality and Safety** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Implementation of R&D&I Projects in Food Quality and Safety**

Modality: **online**

Duration: **12 weeks**

Accreditation: **12 ECTS**



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University 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 language  
classroom



## Postgraduate Certificate Implementation of R&D&I Projects in Food Quality and Safety

- » Modality: online
- » Duration: 12 weeks
- » Certificate: TECH Global University
- » Credits: 12 ECTS
- » Schedule: at your own pace
- » Exams: online



# Postgraduate Certificate

Implementation of R&D&I Projects in  
Food Quality and Safety