

# Postgraduate Certificate Food Development and Innovation





## Postgraduate Certificate Food Development and Innovation

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/veterinary-medicine/postgraduate-certificate/food-development-innovation](http://www.techtute.com/us/veterinary-medicine/postgraduate-certificate/food-development-innovation)

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# 01

# Introduction

The development of new foods is constantly evolving, thanks to technological advances, but all processes must be well understood in order to comply with all sanitary guarantees. 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.



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*Food safety is paramount to human health. Therefore, it is necessary to control all the processes involved in the creation of new products"*

This Postgraduate Certificate presents the R&D&I systems in the development of new foods in different sectors of the food industry that require new technologies, new processes and food safety systems that are increasingly specific and adapted to the characteristics of new foods.

This is a field of growing interest in food technology, such as the production and use of new ingredients obtained from different sources.

This training examines current research and development systems in the design and use of new ingredients, with special emphasis on the importance of preserving the food safety of the ingredients and the foods in which they are used.

The Postgraduate Certificate in Food Development and Innovation of TECH Global University is the most complete among the training courses offered in universities at this time because it is aimed at the integrated management of food safety.

The teachers of this Postgraduate Certificate 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 implementation 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 Food Development and Innovation** 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 Novel Food Development
- ♦ Practical exercises where self assessment can be used to improve learning
- ♦ Special emphasis on innovative methodologies in Novel Food Development
- ♦ 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. We have the best syllabus, professional specialists in the field and the latest educational technology"*

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*This Postgraduate Certificate is the best investment you can make in selecting a refresher program to update your knowledge in Food Development and Innovation”*

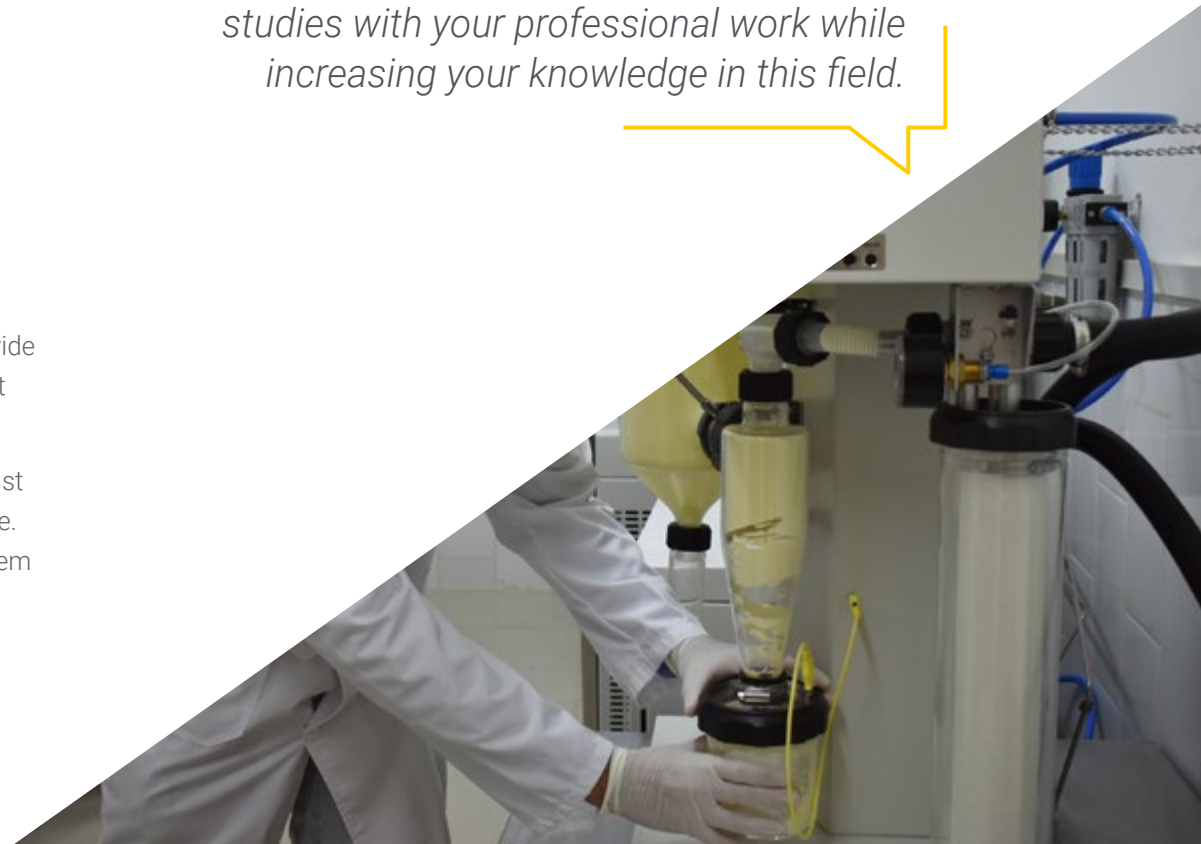
It includes, in its teaching staff, professionals belonging to the field of veterinary food safety, who pour into this training the experience of their work, in addition to recognized specialists from reference societies and prestigious universities.

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. To this end, the professional will be assisted by an innovative interactive video system developed by renowned and experienced experts in novel food development.

*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

This Postgraduate Certificate in Food Development and Innovation is aimed at facilitating the professional's performance with the latest advances in the sector.







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*This is the best option to learn about the latest advances in food development and innovation”*



## General Objectives

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- Establish R&D&I systems that enable the development of new foods and ingredients, especially in food safety issues, so that they can address research, development and innovation in this field
- Develop knowledge that provides a basis or opportunity for the development and or application of ideas, in a research context, including reflections on the responsibilities linked to the application of their developments

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





## Specific Objectives

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- ◆ Establish new trends in food technologies that give rise to the development of a line of research and implementation of new products in the market
- ◆ Establish the fundamentals of the most innovative technologies that require research and development work to understand their potential for use in the production of new foods and ingredients
- ◆ Design research and development protocols for the incorporation of functional ingredients to a base food, taking into account its techno functional properties, as well as the technological process involved in its elaboration
- ◆ Compile new trends in food technologies that will lead to the development of a line of research and implementation of new products in the market
- ◆ Apply research and development methodologies to evaluate the functionality, bioavailability and bioaccessibility of novel foods and ingredients

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.





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*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

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- 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

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*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. Rendueles de la Vega, Manuel

- ♦ D. in Chemical Engineering, Professor of Chemical Engineering (University of Oviedo)
- ♦ Coordinator of the Master's Degree 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.





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*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. R&D&I of Novel Foods and Ingredients

- 1.1. New Trends in Food Product Processing
  - 1.1.1. Design of Functional Foods Aimed at Improving Specific Physiological Functions
  - 1.1.2. Innovation and New Trends in the Design of Functional Foods and Nutraceuticals
- 1.2. Technologies and Tools for Isolation, Enrichment, and Purification of Functional Ingredients from Different Starting Materials
  - 1.2.1. Chemical Properties
  - 1.2.2. Sensory Properties
- 1.3. Procedures and Equipment for the Incorporation of Functional Ingredients into the Base Feed
  - 1.3.1. Formulation of Functional Foods According to Their Chemical and Sensory Properties, Caloric Value, etc.
  - 1.3.2. Stabilization of Bioactive Ingredients from Formulation
  - 1.3.3. Dosage
- 1.4. Gastronomy Research
  - 1.4.1. Texture.
  - 1.4.2. Viscosity and Flavor. Thickeners Used in Nouvelle Cuisine
  - 1.4.3. Gelling Agents
  - 1.4.4. Emulsions
- 1.5. Innovation and New Trends in the Design of Functional Foods and Nutraceuticals
  - 1.5.1. Design of Functional Foods Aimed at Improving Specific Physiological Functions
  - 1.5.2. Practical Applications of Functional Food Design
- 1.6. Specific Formulation of Bioactive Compounds
  - 1.6.1. Flavonoid Transformation in the Formulation of Functional Foods
  - 1.6.2. Bioavailability Studies of Phenolic Compounds
  - 1.6.3. Antioxidants in the Formulation of Functional Foods
  - 1.6.4. Preservation of Antioxidant Stability in Functional Food Design
- 1.7. Design of Low Sugar and Low Fat Products
  - 1.7.1. Development of Low Sugar Products
  - 1.7.2. Low Fat Products
  - 1.7.3. Strategies for the Synthesis of Structured Lipids
- 1.8. Processes for the Development of New Food Ingredients
  - 1.8.1. Advanced Processes for Obtaining Food Ingredients with Industrial Application: Micronization and Microencapsulation Technologies
  - 1.8.2. Supercritical and Clean Technologies
  - 1.8.3. Enzymatic Technology for the Production of Novel Food Ingredients
  - 1.8.4. Biotechnological Production of Novel Food Ingredients
- 1.9. New Food Ingredients of Plant and Animal Origin
  - 1.9.1. Trends in R&D&I Developments in New Ingredients
  - 1.9.2. Applications of Plant Based Ingredients
  - 1.9.3. Applications of Ingredients of Animal Origin
- 1.10. Research and Improvement of Labeling and Preservation Systems
  - 1.10.1. Labeling Requirements
  - 1.10.2. New Conservation Systems
  - 1.10.3. Validation of Health Claims



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

# 05 Methodology

This training program offers 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.





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*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.



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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. 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 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

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.



# 06 Certificate

The Postgraduate Certificate in Food Development and Innovation guarantees, in addition to the most rigorous and up to date training, access to a Diploma issued by TECH Global University.



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*Include in your training a Postgraduate Certificate in Food Development and Innovation: a highly qualified added value for any professional in this area"*

This program will allow you to obtain your **Postgraduate Certificate in Food Development and Innovation** 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 Food Development and Innovation**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 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  
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community commitment  
personalized service innovation  
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classroom

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university

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