

Postgraduate Certificate

Risk Analysis in the Food Industry





Postgraduate Certificate Risk Analysis in the Food Industry

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

Website: www.techtute.com/us/nutrition/postgraduate-certificate/risk-analysis-food-industry

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01

Introduction

With consumers' growing collective awareness of food safety and quality, as well as stricter government regulations in this area, companies in the food industry face increasing pressure to ensure the excellence of their products. For this reason, the demand for professionals in this sector is extensive and with this program, students will be able to specialize in an advanced way and have access to the best job offers. This, thanks to the complete curriculum guaranteed by TECH, in which students will gain a deep knowledge of Risk Analysis. All this, through a 100% online methodology that will allow them to have more control over their time.





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Ensure food safety with this Postgraduate Certificate program in which you will identify risks in the food industry and become a highly qualified professional"

Risk Analysis in the Food Industry is a crucial discipline to ensure the safety of the food industry and to protect the health of consumers. It also allows to have a deeper control over the processes to be carried out during food production, thus ensuring the production of high quality products. With this in mind, the structure of this Postgraduate Certificate program will allow the student to adopt all the necessary tools to excel in this field.

This will be possible thanks to the complete syllabus in which this program is structured and in which the student will acquire training on the most relevant elements to be taken into account in the evaluation of hazard factors. The different types of food hazards will also be studied, analyzing their origin, the reactions they cause and the mitigation measures to be applied to each one.

In addition, hazards of abiotic origin will be addressed, in order to identify them in a professional environment and act efficiently to counteract their effects. In this way, the trainee will be able to increase their professional skills and have the most appropriate competencies to meet the demands that exist in this sector today.

All this, thanks to the innovative Relearning methodology, which allows students to study from home and have greater time flexibility, since they will have access 24 hours a day to the multimedia resources they will find in the online campus. In addition, you will be able to strengthen your competencies and increase your ability to solve problems, since you will analyze practical cases that will place you in a real scenario.

This **Postgraduate Certificate in Risk Analysis in the Food Industry** contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of case studies presented by experts in Risk Analysis in the Food Industry
- 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
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- 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



Upgrade your practical skills in food industry risk management and increase your job prospects"

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Face the challenges that exist in the area of food safety with confidence thanks to the knowledge you will acquire in this Postgraduate Certificate"

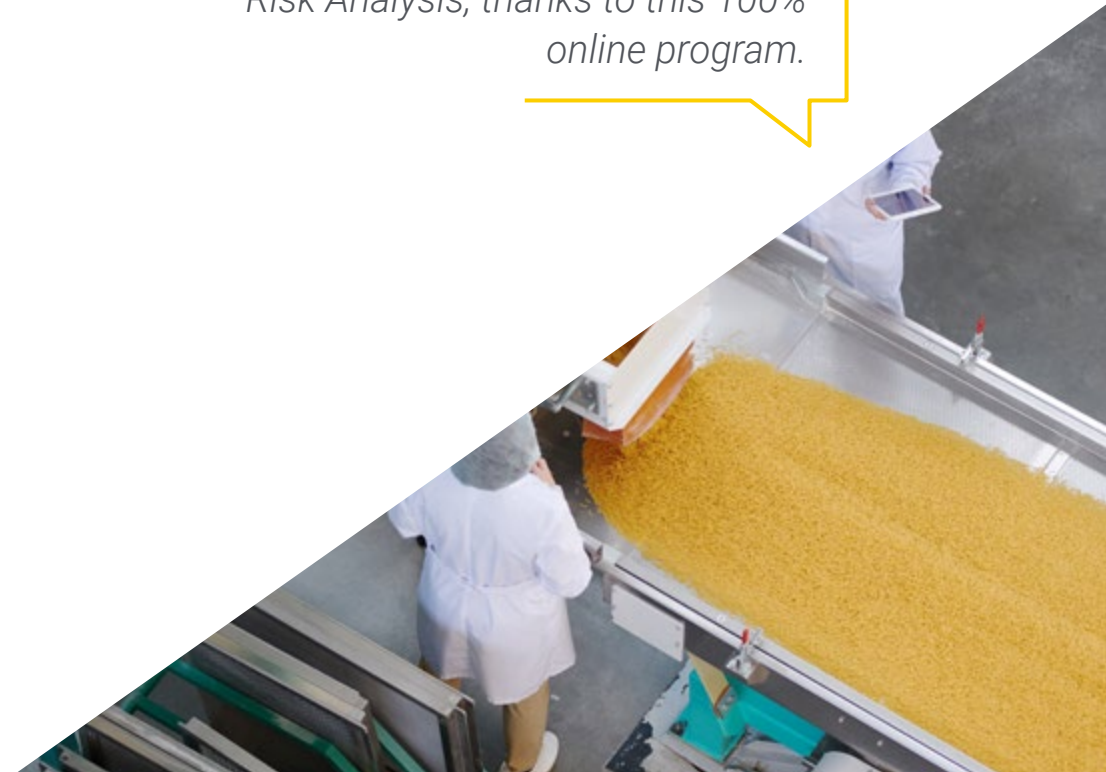
The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its 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 an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

No need to comply with inflexible study schedules and the possibility of learning at your own pace are two benefits that this degree offers you.

Push your professional career towards excellence and become an expert in Risk Analysis, thanks to this 100% online program.



02 Objectives

The main purpose of this educational program is to update students on the technical nuances that encompass Risk Analysis and to strengthen their professional competencies in this area by providing concrete definitions that directly influence this field. This will allow the students to obtain the necessary tools to apply everything they have learned in a work environment.





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This program will provide you with an in-depth knowledge of food-borne illnesses, so that you can develop strategies to prevent their spread”



General Objectives

- Acquire basic knowledge of epidemiology and prophylaxis
- To know and distinguish the physicochemical parameters that affect microbial growth in foods
- Identify the differential nature of acellular organisms (viruses, viroids and prions) in terms of their structure and mode of replication, with respect to eukaryotic and prokaryotic cell models



Do you want to stand out in the Food Industry? This Postgraduate Certificate in Risk Analysis is the best opportunity to do so. Start now"





Specific Objectives

- ◆ To know the factors that influence microbial growth in different foods for human consumption
- ◆ Identify, analyze and evaluate biological, chemical and physical hazards that may occur during all stages of the food chain
- ◆ Identify the main microorganisms and parasites responsible for foodborne diseases
- ◆ Understand and recognize the public health significance of foodborne diseases and the control measures applicable in each case
- ◆ Know how to apply the available web resources in the search for information related to food safety management and assessment

03

Structure and Content

The academic program of this Postgraduate Certificate has been developed by leading experts in the field of the Food Industry, with the objective of guaranteeing an excellent education for the students. In this way, students will obtain a complete training on the concepts that encompass Risk Analysis, as well as the mastery of the notions of food safety. All this, through the study of multimedia resources and the analysis of practical cases, which will guarantee students the improvement of their professional skills in this field.





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Master the methods of risk assessment that affect the food production process, thanks to this program"

Module 1. Risk Analysis in the Food Industry

- 1.1. Food safety and principles of risk analysis (RA)
 - 1.1.1. Concept of food Security/Safety. Historical Background BORRAR
 - 1.1.1.1. First problems encountered in food safety
 - 1.1.1.2. Food crises
 - 1.1.2. Evolution of food safety
 - 1.1.2.1. Food safety in the food industry
 - 1.1.3. Hazard analysis (HA)
 - 1.1.3.1. Definition of hazard and origin of food hazards
 - 1.1.3.2. Biotic hazards
 - 1.1.3.3. Most important sources of food contamination
 - 1.1.3.4. Bacteria and bacterial toxins
 - 1.1.3.5. Foodborne zoonoses. Surveillance of food zoonoses and notifiable food diseases
 - 1.1.4. Emerging, re-emerging and new foodborne diseases: microbial adaptation and anthropogenic factors
 - 1.1.5. Prevention and control: theory of barriers and food preservation
- 1.2. Hazards of biotic origin in the food industry I: food zoonoses of epidemiological surveillance
 - 1.2.1. General characteristics: health importance, prevalence, epidemiology, and control measures
 - 1.2.1.1. Brucellosis,
 - 1.2.1.2. Tuberculosis
 - 1.2.1.3. Listeria
 - 1.2.1.4. Q fever
 - 1.2.2. Gram-negative bacilli spore products: health significance, prevalence and epidemiology
 - 1.2.2.1. Bacillus
 - 1.2.2.2. Clostridium
 - 1.2.3. Non-sporulating large negative bacilli: health importance, prevalence and epidemiology
 - 1.2.3.1. Campylobacteriosis
 - 1.2.3.2. Salmonellosis
 - 1.2.3.3. Shigellosis
 - 1.2.3.4. *E. coli*
 - 1.2.3.5. *Yersinia*
 - 1.2.3.6. *Vibrio*
- 1.3. Biotic hazards in the food industry II: viruses, prions and parasites
 - 1.3.1. Viruses and prions: general characteristics, health importance, prevalence, and control and mitigation measures
 - 1.3.1.1. Norovirus
 - 1.3.1.2. Rotavirus
 - 1.3.3.3. Hepatitis A
 - 1.3.3.4. Hepatitis E
 - 1.3.3.5. Coronavirus
 - 1.3.3.6. Transmissible Spongiform Encephalopathies
 - 1.3.2. Parasites: general characteristics, health importance, prevalence, and control and mitigation measures
 - 1.3.2.1. Protozoa: toxoplasma, Giardia and Cripstosporidium
 - 1.3.2.2. Nematodes Trichinella, Anisakis, Diphylobotrium
 - 1.3.3.3. Trematodes Taenia, Fasciola, Paragonimus, Clonorchis
- 1.4. Hazards of abiotic origin in the food industry I
 - 1.4.1. Risk assessment of chemical agents in food
 - 1.4.1.1. Health-based guiding values
 - 1.4.1.2. Safety/uncertainty and chemical-specific adjustment factors
 - 1.4.1.3. NOEL/NOAEL, LOEL/LOAEL, no-effect level of exposure
 - 1.4.1.4. Acute reference dose
 - 1.4.2. Natural compounds present in food
 - 1.4.2.1. Toxic products of plant origin
 - 1.4.2.2. Toxic products of animal origin
 - 1.4.2.3. Allergens
 - 1.4.2.4. Control and mitigation measures
 - 1.4.3. Compounds generated during food processing
 - 1.4.3.1. Contaminants originating during food production processes: acrylamides
 - 1.4.3.2. Compounds generated during storage: biogenic amines
 - 1.4.3.3. Evaluation of the exhibition

- 1.5. Hazards of abiotic origin in the food industry II
 - 1.5.1. Environmental contaminants and residues derived from primary production
 - 1.5.1.1. Heavy Metals
 - 1.5.1.2. Persistent organic compounds (POPs)
 - 1.5.1.3. Pesticides
 - 1.5.1.4. Medicines for veterinary use
 - 1.5.1.5. Evaluation of the exhibition
 - 1.5.2. Control and mitigation measures
 - 1.5.3. Contaminants added during the food production process
 - 1.5.3.1. Food additives
 - 1.5.3.2. Technological adjuvants
 - 1.5.3.3. Materials in Contact with Food
 - 1.5.4. Control and mitigation measures
- 1.6. Sampling plans and establishment of microbiological criteria in the food industry
 - 1.6.1. Basic sampling requirements
 - 1.6.2. Sampling plan and sampling errors
 - 1.6.3. Preservation, transport and storage of samples
 - 1.6.3.1. Laboratory sampling and record keeping manual
 - 1.6.4. Quality Examples: and Risk Analysis in the Food Industry
- 1.7. Food safety management systems for the food industry
 - 1.7.1. Introduction to Communications Management
 - 1.7.2. Prerequisite Plans
 - 1.7.2.1. Concept prerequisite and Characteristics
 - 1.7.2.2. Water: Control Plan
 - 1.7.2.3. Supplier Monitoring Plan
 - 1.7.2.4. Facility and equipment cleaning and disinfection plan
 - 1.7.2.5. Pest Control Plan
 - 1.7.2.6. Personal hygiene and handler training and control plan
 - 1.7.2.7. Equipment Maintenance Drawings
 - 1.7.2.8. Traceability Plan
 - 1.7.3. A.P.P.P.C.C. implementation
 - 1.7.3.1. Preliminary activities
 - 1.7.3.2. Principles of the Hazard Analysis Critical Control Point (HACCP) Plan
- 1.8. "Food Defense" as a measure to protect the food industry
 - 1.8.1. Rationale for food defense plans in the food industry
 - 1.8.2. Differences and similarities between food defense and food safety
 - 1.8.3. Elaboration and implementation of a Food Defense Plan
 - 1.8.4. Food crisis management in industry
- 1.9. Risk assessment and estimation of food safety targets
 - 1.9.1. Introduction to risk assessment
 - 1.9.2. Tolerable level of consumer protection
 - 1.9.3. Establishment of food safety objectives
 - 1.9.4. Relationship between FSO and quantitative risk assessment
 - 1.9.5. Establishment of an FSO based on quantitative risk assessment
- 1.10. New concepts in food safety management: adequate level of protection and food safety objective
 - 1.10.1. Introduction to food safety management
 - 1.10.2. Appropriated Level of Protection (ALOP)
 - 1.10.3. Food Safety Objective (FSO) and other related concepts (Performance Objectives PO)
 - 1.10.4. Relationship between ALOP and FSO



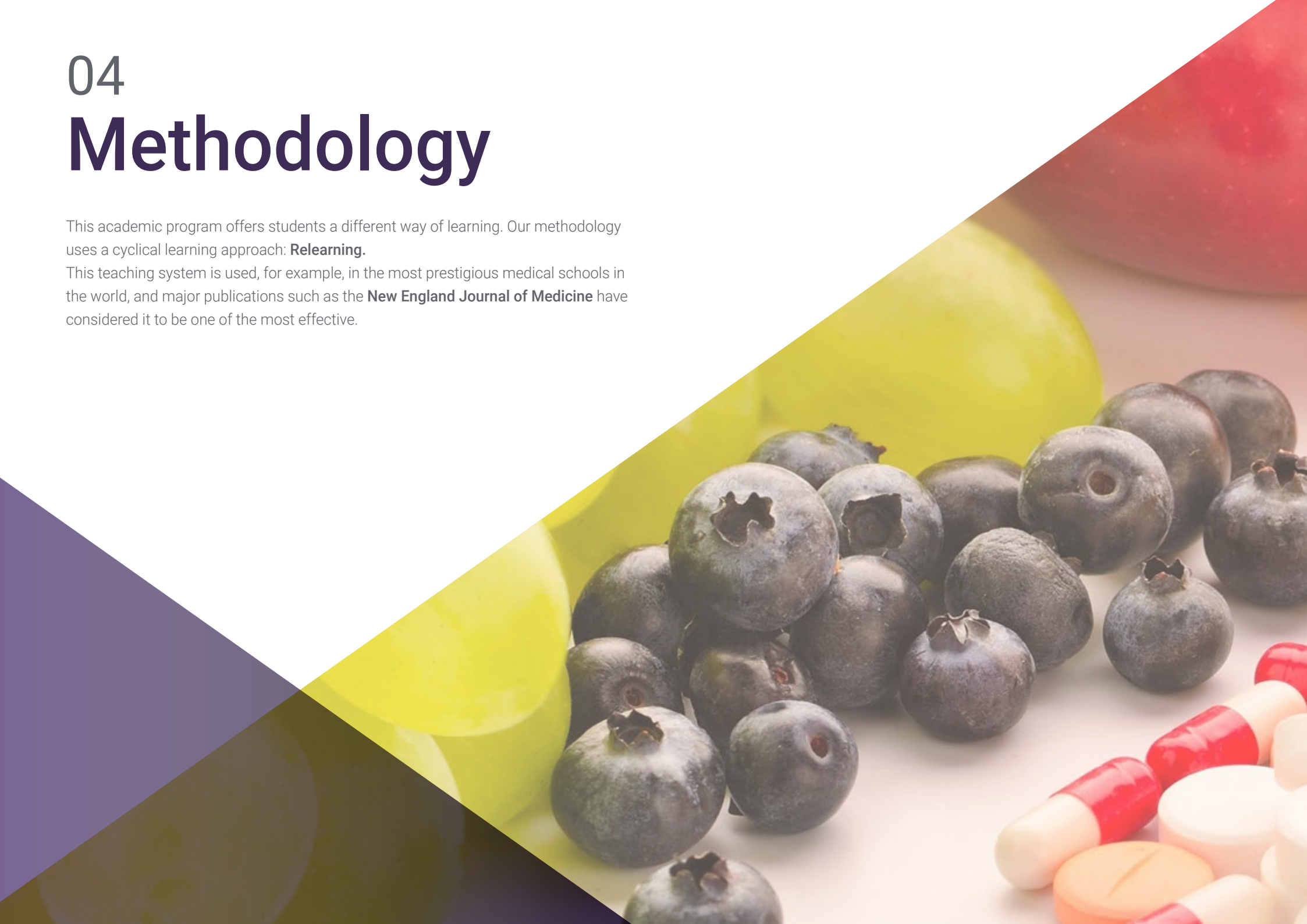
Discover the path to success in the Food Industry with this Postgraduate Certificate in Risk Analysis"

04

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.





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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

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.

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Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”

The effectiveness of the method is justified by four fundamental achievements:

1. Nutritionists who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity through exercises to evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the nutritionist to better integrate knowledge into clinical practice.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

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



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 45,000 nutritionists have been trained with unprecedented success in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



Nutrition Techniques and Procedures on Video

TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current nutritional counselling techniques and procedures. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



Interactive Summaries

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

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



Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



Classes

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

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



05 Certificate

The Postgraduate Course in Risk Analysis in the Food Industry guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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

This program will allow you to obtain your **Postgraduate Certificate in Risk Analysis in the Food Industry** 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 Risk Analysis in the Food Industry**

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

institutions technology learning

community commitment

personalized service innovation

knowledge present

development languages

virtual classroom

tech global
university

Postgraduate Certificate

Risk Analysis in the
Food Industry

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Postgraduate Certificate

Risk Analysis in the Food Industry

