

Postgraduate Certificate

Packaging and Preservation Techniques in Food Industry





Postgraduate Certificate Packaging and Preservation Techniques in 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/packaging-preservation-techniques-food-industry

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01

Introduction

With the increase in demand for processed foods, there is an obligation to maintain the quality and safety of these products until they reach the hands of the consumer, causing these elements to become infallible processes in production. For this purpose, techniques focused on Packaging and Preservation have been integrated to the Industry and with this academic program the student will be able to master them completely, due to the fact that it has a study plan focused on the main operations that give rise to these aspects. All this, 100% online, a benefit that will allow you to have more control over your time.





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A Postgraduate Certificate program for those professionals who wish to broaden their knowledge in Food Packaging and Preservation Techniques"

Nowadays, within the food industry, food packaging and preservation are crucial aspects to guarantee the safety and quality of food products. For this reason, the global demand for food and the growing awareness of the importance of nutrition in human health and the growing awareness of the importance of nutrition in human health, it is essential to have professionals trained in the most common techniques used in the production process of these products.

Therefore, this Postgraduate Certificate seeks to provide the student with the knowledge and skills necessary to master the principles of food technology and the different types of food industries, with the objective of executing operations focused on food production. Likewise, the student will have the opportunity to deepen in the procedures that modify the size and texture of calculus products, through their thermal treatment.

And all of the above, through the innovative Relearning methodology, which allows this program to be taught 100% online, a benefit that will give students the possibility to study from anywhere and access the multimedia resources that they will find 24 hours a day in the virtual campus from the device connected to the Internet that best suits their needs. In addition, you will strengthen your problem-solving skills by analyzing practical cases that will place you in the simulation of a real environment.

This **Postgraduate Certificate in Packaging and Preservation Techniques 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 Packaging and Preservation Techniques in the Food Industry
- ◆ The graphic, schematic and eminently practical contents of the book provide scientific and practical information on those disciplines that are essential for professional practice
- ◆ Practical exercises where the self-assessment process can be carried out 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



If your goal is to achieve excellence, this Postgraduate Certificate program is perfect for you. Start now”

“ *The packaging of a food product is as important as its handling. Start this program and discover how to master these aspects* ”

Its teaching staff includes health professionals from the field of clinical nutrition, who contribute their work experience to this training, as well as renowned specialists belonging to leading scientific societies.

Thanks to its multimedia content developed with the latest educational technology, they will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to prepare in real situations.

The design of this program is based on Problem-Based Learning, which is based on the professional practice problems that are posed throughout the program. This will be done with the help of an innovative system of interactive videos made by recognized experts in the field of nutrition and with great teaching experience.

Case studies will allow you to apply more effective solutions when you are in a real situation.

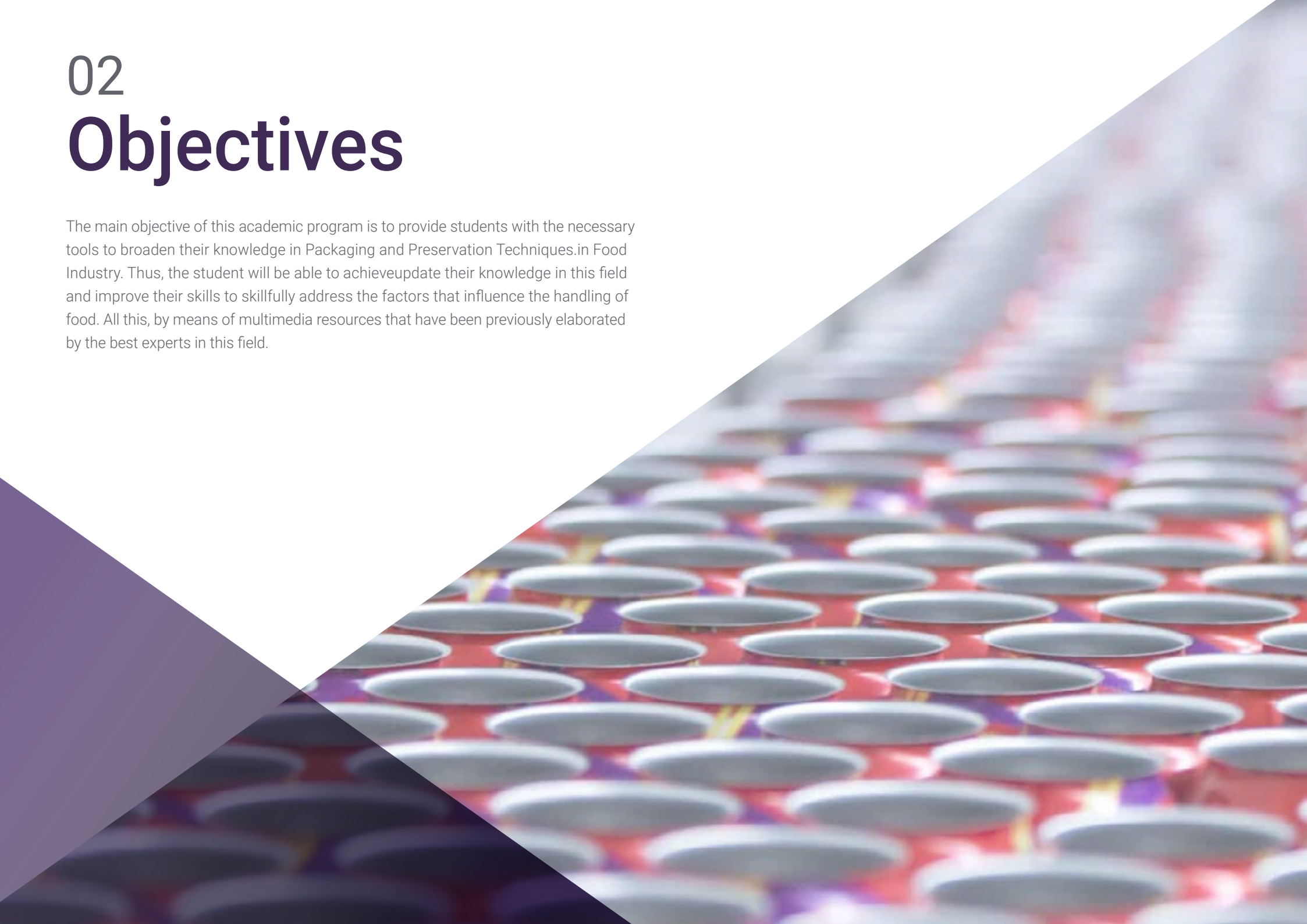
Learn at your own pace and from anywhere you want, thanks to the fact that this program is developed completely online.



02

Objectives

The main objective of this academic program is to provide students with the necessary tools to broaden their knowledge in Packaging and Preservation Techniques in Food Industry. Thus, the student will be able to update their knowledge in this field and improve their skills to skillfully address the factors that influence the handling of food. All this, by means of multimedia resources that have been previously elaborated by the best experts in this field.



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A Postgraduate Certificate that will allow you to integrate sustainability criteria with food safety concepts, with the objective of elaborating better products"



General Objectives

- ◆ To know the influence that chemical engineering has had in recent years in the production and creation of foodstuffs
- ◆ Identify the main quality processes to which food products are subjected
- ◆ Apply knowledge of food chemistry in dietetics and nutrition
- ◆ To recognize the influence of Bromatology and its related aspects in the qualitative and quantitative composition of food
- ◆ Analyze new technologies and their contribution to the food production process





Specific Objectives

- ◆ To know and classify the processes applied in the food industry for the elaboration, preservation, packaging, storage and transportation of food
- ◆ Identify the most appropriate methodologies for food preservation according to the types of food and the desired according to the type of food and the desired degree of quality
- ◆ To know and understand the operation of the main equipment used for food preservation and processing
- ◆ Identify and adopt a critical attitude towards current and future technologies and be able to argue and make reasoned decisions
- ◆ To know how to apply environmental sustainability criteria to the processes applied in the food industry

“ *TECH guarantees that all the knowledge you acquire in this program can be immediately implemented in a work environment* ”

03

Structure and Content

The syllabus of this Postgraduate Certificate has been prepared by professional experts in Nutrition. In this way, students will have the opportunity to acquire specialized and updated knowledge about the most advanced techniques used to preserve the nutritional properties of a food. In addition, you will learn about the most implemented operations within the Food Packaging Industry, with the objective that the student fully masters the production chain.



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Food preservation is a vital process during food production and with this syllabus you will master the best techniques for this activity to be carried out correctly"

Module 1. Food processing and preservation

- 1.1. Introduction to the Food and purchase Technologies
 - 1.1.1. Historical Development of food technology
 - 1.1.2. Objectives of Food Technology
 - 1.1.3. Causes of Abnormalities of Vegetable Foods
 - 1.1.3.1. Food spoilage mechanisms
 - 1.1.3.2. Factors responsible for food spoilage
- 1.2. Food production industries
 - 1.2.1. The agri-food sector
 - 1.2.2. Types of industries
 - 1.2.3. Processes and unit operations
 - 1.2.4. Food industry flow diagrams: examples
- 1.3. Food industry operations
 - 1.3.1. Raw material conditioning operations
 - 1.3.1.1. Reception, sorting, selection and transport
 - 1.3.1.2. Separation of the edible part
 - 1.3.2. Size modification and size reduction of solid foods
 - 1.3.3. Reducing the size of liquid foods
 - 1.3.4. Flocculation and homogenization: mixing and shaping
- 1.4. Separation operations
 - 1.4.1. Screening and pressing
 - 1.4.2. Membrane separation
 - 1.4.3. Extraction: crystallization
 - 1.4.4. Equipment and applications in the food industry
- 1.5. Texture modification operations
 - 1.5.1. Gelling Agents
 - 1.5.2. Texturing
 - 1.5.3. Extrusion
 - 1.5.4. Applications in the Food and Industry





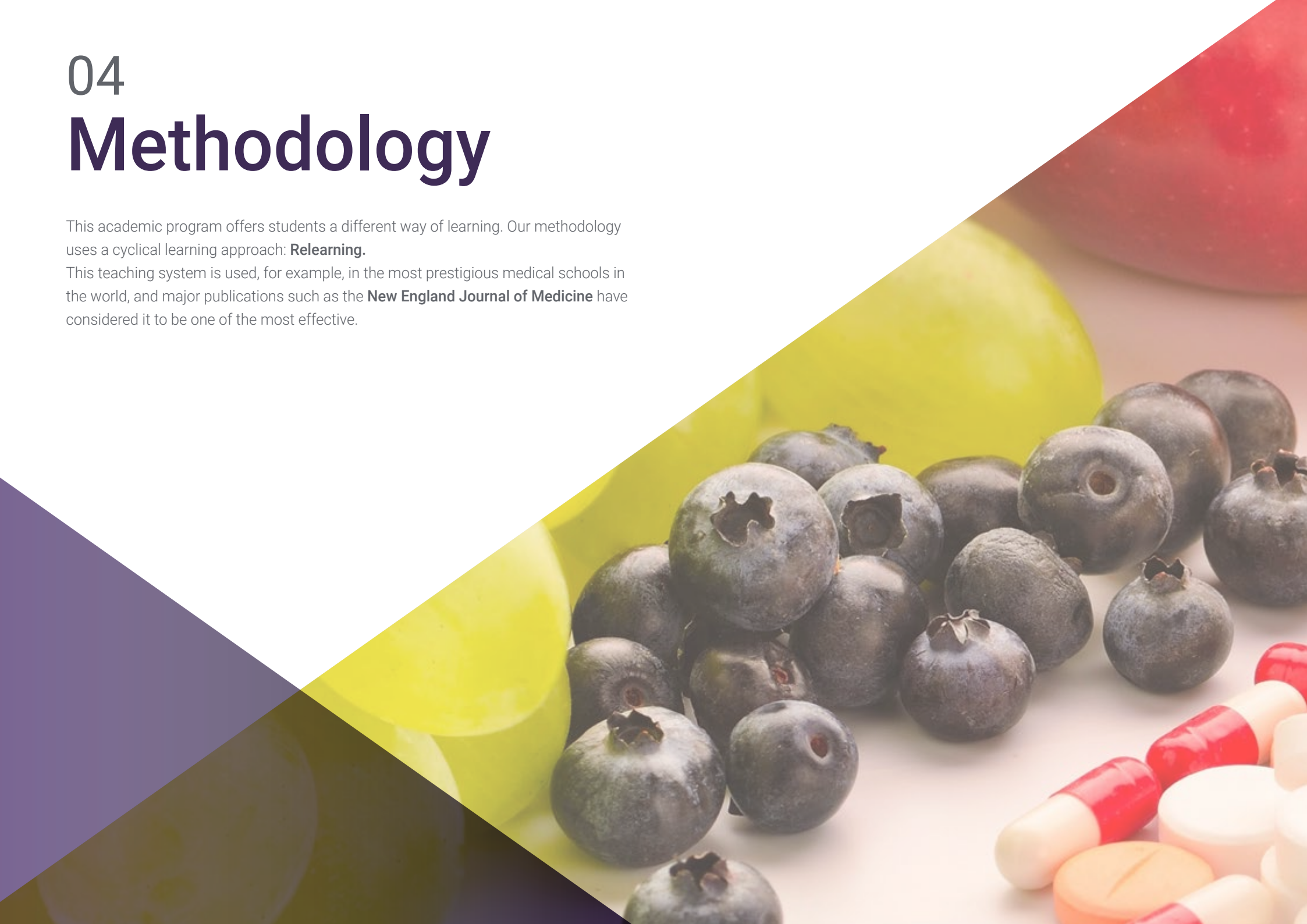
- 1.6. Basics of food preservation
 - 1.6.1. Description of canned and semi-canned
 - 1.6.2. Relevant microorganisms and enzymes
 - 1.6.3. Effects of heat on enzymes
 - 1.6.4. Mechanisms of thermoresistance of microorganisms
- 1.7. Calculation and adjustment of heat treatment
 - 1.7.1. Concept of Risk
 - 1.7.2. Sterilization time (F-value)
 - 1.7.3. Effect of food processing
 - 1.7.4. Lethality value (L-value)
 - 1.7.5. Validation of the heat treatment applied
- 1.8. Heat treatment plants and their application
 - 1.8.1. Discontinuous pasteurization and sterilization equipment for packaged foods
 - 1.8.2. Continuous pasteurization and sterilization equipment for unpackaged foodstuffs
 - 1.8.3. Aseptic processing and packaging
 - 1.8.4. Application of heat treatments in the food industry
- 1.9. Depression of water activity
 - 1.9.1. Physicochemical Properties of Water
 - 1.9.1.1. Interaction of water with other food components
 - 1.9.1.2. Concept of water activity. Sorption isotherms
 - 1.9.2. Influence of water activity on food spoilage mechanisms of foodstuffs
 - 1.9.3. Fundamentals and Objectives in Dehydration
 - 1.9.4. Fundamentals and Objectives in Dehydration
 - 1.9.5. Classification: Lyophilization and osmotic dehydration
- 1.10. Conservation by concentration
 - 1.10.1. Food concentration
 - 1.10.2. Evaporation phenomenon
 - 1.10.3. Degree of concentration
 - 1.10.4. Concentration by multiple effect. Types of evaporators
 - 1.10.5. Aroma recovery
 - 1.10.6. Cryoconcentration
 - 1.10.7. Reverse Osmosis

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 Certificate in Packaging and Preservation Techniques in 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 Packaging and Preservation Techniques in 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 Packaging and Preservation Techniques in 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.



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