

# Postgraduate Diploma

## Procedures and Techniques in Flavor Design



## Postgraduate Diploma Procedures and Techniques in Flavor Design

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 26 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/nutrition/postgraduate-diploma/postgraduate-diploma-procedures-techniques-flavor-design](http://www.techtute.com/us/nutrition/postgraduate-diploma/postgraduate-diploma-procedures-techniques-flavor-design)

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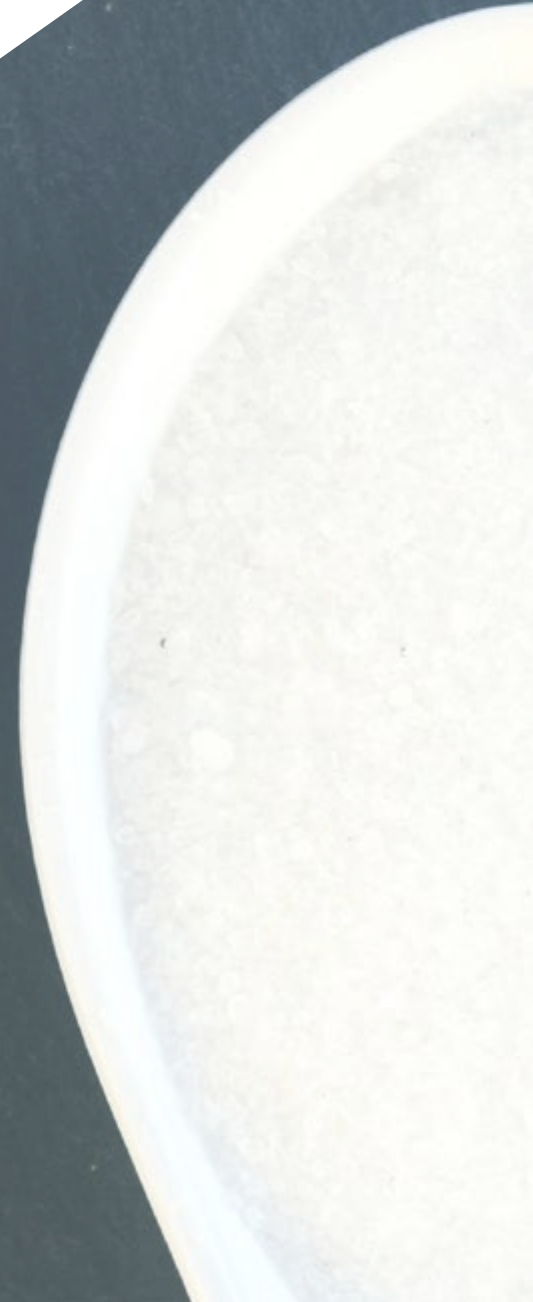
# 01

# Introduction

The sensory world has changed. New tastes, demands and market evolution have brought gastronomy to a unique point in history.

Consumers are increasingly demanding work that incorporates not only quality, but also innovation in the dishes. In this context, this University program in Procedures and Techniques in Flavor Design offers you, for the first time, the opportunity to incorporate the theoretical and practical developments necessary to reach the elite of creators in the world of avant-garde gastronomy.

In this training you will learn the essential chemical bases for the development and innovation work in the area of flavors and the most important instrumental knowledge in this interesting field.





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*The flavor designer is becoming an indispensable part of the workforce in gastronomy-related areas. A challenge that requires from the professional, an arsenal of knowledge that includes biochemical knowledge, social trends and project development”*

The Postgraduate Certificate in Procedures and Techniques in Flavor Design is presented as a formative action that favors connection, learning, participation and knowledge construction. A program that aims not only to offer you specific knowledge, but also to create capable, innovative, and revolutionary professionals in their sector.

You will embark on a training course with us, designed to be practical, active, and participatory. You will work intensively but flexibly, thoroughly but concretely.

You will be personally monitored by a mentor, who will accompany you in your training throughout the program.

This support will be provided through a wide range of communication possibilities, both in real time and delayed: internal messaging, discussion forums, telephone answering service, e-mail contact with the technical department, chat, and videoconferencing.

In addition, you will be able to share with other students and professionals in this field through the different systems that we provide in the program and the networking that we incorporate into the program.



*Boost your CV to another level with this comprehensive Flavor Design course, which will make you an asset to any team"*

This **Postgraduate Diploma in Procedures and Techniques in Flavor Design** offers the characteristics of a high-level scientific, teaching and technological course:

- ♦ The latest technology in Online teaching software
- ♦ A highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- ♦ Practical cases presented by practising experts
- ♦ State-of-the-art interactive video systems
- ♦ Teaching supported by telepractice
- ♦ Continuous updating and recycling systems
- ♦ Autonomous learning: full compatibility with other occupations
- ♦ Practical exercises for self-evaluation and learning verification
- ♦ Support groups and educational synergies: questions to the expert, debate and knowledge forums
- ♦ Communication with the teacher and individual reflection work
- ♦ Content that is accessible from any fixed or portable device with an Internet connection
- ♦ Supplementary documentation databases are permanently available, even after the course

The program's teaching staff includes leading professionals who contribute their vast work experience to this training program. Additionally, recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner. Passionate teachers that will give you the boost you need to grow. Thanks to multimedia content developed with the latest educational technology, you will be immersed in situated and contextual learning. In other words, a simulated environment that will provide immersive learning, programmed to train for real situations. A learning process that you will have to integrate in teamwork, learning to investigate, argue and defend ideas and decisions. In this way, we work on the development of other personal and professional skills, essential for personal and professional success.



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*A creative and stimulating learning environment that will allow you to train and grow as a professional, connecting you with other professionals in the sector"*

Our teaching staff is made up of working professionals. This ensures that the training update objective we are aiming for is achieved. A multidisciplinary team of professors trained and experienced in different environments, who will develop the theoretical knowledge in an efficient way, but, above all, will put at the service of the course the practical knowledge derived from their own experience: one of the differential qualities of the course.

This mastery of the subject is complemented by the effectiveness of the methodological design of this training. Developed by a multidisciplinary team of *e-Learning* experts, it integrates the latest advances in educational technology. This way, you will be you will learn to study with a range of comfortable and versatile multimedia tools that will give you the operability you need in your training.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, telepractice will be used: with the help of an innovative system of interactive videos, and *learning from an expert* you will be able to acquire the knowledge as if you were facing the case you are learning at that moment. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

*Observing the expert in the process of performing the task, triggers brain mechanisms similar to those activated when performing the same activity: this is the principle of the high efficiency of our "learning from an expert"*

*This 100% online Advanced Master's Degree will allow you to combine your studies with your professional work while increasing your knowledge in this field.*



# 02 Objectives

TECH University aims to train highly qualified professionals for the workplace. An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is focused on helping professionals reach a much higher level of expertise and control. A goal that, in just six months, you will be able to achieve with a highly intensive and precise course.





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*Our goal is yours: to provide you with the best up-to-date online expertise on Procedures and Techniques in Flavor Design in the educational market. A one-of-a-kind program that will propel you to the forefront in your industry"*



## Objectives

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### Module 1. Introduction to the study of flavors

- ♦ Define and classify flavors
- ♦ Identify how flavors are developed and modified based on the qualities of the professional profile, using the flavorist's talent and skill to achieve a formulation that is accepted by the target public
- ♦ Determine the development of flavorings in compliance with existing regulations.

### Module 2. Aromatic chemicals and vehicles

- ♦ Explain the mixture of aromatic chemicals in the flavoring
- ♦ Determine the behavior of aromatic chemicals within the food matrix and all the reactions produced during the food preparation processes
- ♦ Identify the main sources and suppliers of aromatic chemicals

### Module 3. Biochemistry

- ♦ Provide participants with an overview of flavor chemistry and its sensory relationship
- ♦ Define the differences between essential oils from fruits, vegetables and spices, aromatic plants, and animal profiles







#### **Module 4. Creation and methodology**

- ♦ Review and unify the concepts learned for creating emotional and successful flavors and aromas
- ♦ Determine the use of chromatographs to generate flavors
- ♦ Obtain new tools that will allow you to enhance your creativity and innovation skills

#### **Module 5. Fundamentals and techniques**

- ♦ Develop and apply a flavor, living the experience and chronological development of the creative process
- ♦ Landing and sensory evaluation of a finished product that meets the demands of today's consumer, through trials and exercises. Section: Flavor in gastronomy

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*Enter one of the most creative and exciting areas in the world of gastronomy with the background of a complete professional, qualified to successfully lead any project"*



03

# Course Management

For our master's degree to be of the highest quality, we are proud to work with a teaching staff of the highest level, chosen for their proven track record in the field of education. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.





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*An impressive teaching staff, made up of professionals from different areas of expertise, will be your teachers during your training: a unique opportunity not to be missed”*

## Management



### Mr. Thuemme Canales, Juan José

- ◆ Technical Manager (Senior Flavorist) of ETADAR. Flavor Design Laboratory of the Multinational Company DEIMAN
- ◆ He has 40 years of experience in the Mexican, Dutch, and U.S. food industry. During his career, he has created and developed flavors for the dairy, bakery, confectionery, beverage, and savory sectors
- ◆ He has been recognized as a Senior Flavorist since 1985. He holds a Bachelor's degree in Engineering and a Master's degree in Biochemistry from the Monterrey Institute of Technology and Higher Education. Mexico
- ◆ During his career he has given a plethora of conferences oriented to "Creation and application of flavors in the food industry" at the University of Durango, "Top notes creation in citrus flavors" at the Frutech Citrus Symposium, "Creation of flavors" in Mexico City or "Native Flavors" at the Food Technology Summit & Expo 2015, among others
- ◆ He currently directs this training program aimed at expanding the knowledge of senior flavorists, preparing flavorists in training and providing entrepreneurs and chefs in the hospitality and catering industry with the tools to break the mold and continue transforming the concept of gastronomy and flavor as we know it

## Professors

### Mr. Coranguez Reyes Gabriel

- ◆ Food Engineer
- ◆ Trainee Flavorist
- ◆ ETADAR by DEIMAN, Mexico City. Morales Heredia, Ana Gabriela

### Dr. Morales Heredia, Ana Gabriela

- ◆ Bachelor's Degree in Food Chemistry
- ◆ Master's Degree in Quality and Applied Statistics
- ◆ Technologist in ETADAR by DEIMAN Applications, Mexico City

### Teutle Chávez, Juan Carlos

- ◆ Laboratory Technician
- ◆ Development Assistant
- ◆ ETADAR by DEIMAN, Mexico City

### García Zepeda, Rafael

- ◆ Industrial Biochemical Engineer
- ◆ Specialization in Biotechnology
- ◆ Legislation and Standards Manager
- ◆ DEIMAN, Mexico City

### Mr. Chávez Barrios, Meida

- ◆ Laboratory Technician
- ◆ Development Assistant
- ◆ ETADAR by DEIMAN, Mexico City

### Vargas García, Jorge Luis

- ◆ Industrial Chemical Engineer
- ◆ Trainee Flavorist ETADAR by DEIMAN, Mexico City



**Dr. Martínez Sánchez, Berenice**

- ♦ Bachelor's Degree in Food Chemistry
- ♦ Application and library coordinator
- ♦ ETADAR by DEIMAN, Mexico City

**Dr. Castañeda Olivera, Alondra Magdalena**

- ♦ Food Engineer
- ♦ Raw Materials Purchaser
- ♦ Researcher for projects at the National Polytechnic Institute
- ♦ DEIMAN, Mexico City

**Dr. Peña García, Maribel**

- ♦ Biochemical Engineer
- ♦ Master's Degree in Andrology
- ♦ Food Specialist
- ♦ Applications Technologist
- ♦ DEIMAN, Mexico City

**Oviedo García, Miguel**

- ♦ Clinical Laboratory Technician
- ♦ Scaling Coordinator
- ♦ DEIMAN, Mexico City

**Mr. Miriam Santiago Nicolás**

- ♦ Trainee Flavorist
- ♦ Oils and Flavors Applications Technologist
- ♦ ETADAR by DEIMAN, Mexico City

**Ms. Monsivais Vilchis, María de Guadalupe**

- ♦ Bachelor's Degree in Food Chemistry
- ♦ Sensory Evaluation Coordinator
- ♦ DEIMAN, Mexico City

**Ms. Yoalli Lizbeth, Solis Montiel**

- ♦ Food Engineer
- ♦ Applications Technologist
- ♦ DEIMAN, Mexico City Alonso Osnaya, Norma Nelly
- ♦ Development Assistant
- ♦ ETADAR by DEIMAN, Mexico City

**Ms. Gómez Pérez, Karen**

- ♦ Bachelor's Degree in Communication Sciences
- ♦ Specialist in Advertising Communication and Consumer Analysis
- ♦ Marketing Manager
- ♦ DEIMAN, Mexico City

**Ms. Orozco López, Déborah María**

- ♦ Bachelor's Degree in Graphic Communication Design
- ♦ Marketing Analyst Industrial Division
- ♦ DEIMAN, Mexico City

**Ms. Carrasco Reyes Maria Luisa**

- ♦ Industrial Engineer
- ♦ Project Coordinator
- ♦ DEIMAN, Mexico City

**Mr. Curiel Monteagudo, José Luis**

- ♦ Food Chemistry Engineer
- ♦ Master's Degree in Food Science and Technology
- ♦ Professor at Claustro de Sor Clara University
- ♦ Mexico City

**Mr. Chef Orozco, Carlos**

- ♦ Diploma in Gastronomy
- ♦ Iberoamerican University Leon Gto
- ♦ Executive Chef at Meliá Cohiba
- ♦ Quintana Roo, Mexico

04

# Structure and Content

The University Certification in Flavor Design is a tailor-made program delivered in a 100% online format, so you can choose the time and place that best suits your availability, schedule and interests.

Throughout six months you will go through a complete and well-structured syllabus that will allow you to know each and every one of the essential aspects of the work of a professional flavorist. A stimulating experience that will lay the foundation for success as a flavor and aroma designer.



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*A complete syllabus that will guide you through the most stimulating and creative learning proposals”*



## Module 1. Introduction to the Study of Flavors

- 1.1. Basic Principle of Flavor Creativity
- 1.2. The Role of the Senses in the Creation of Flavors
- 1.3. Classification of Flavorings: Artificial Flavorings, Natural Flavorings, Natural-Identical Flavorings, and WONF
- 1.4. Flavoring Regulations and Legislation
- 1.5. Food Regulations and Legislation
- 1.6. Qualities of Flavorists Specialized in Sweet and Savory Areas

## Module 2. Aromatic chemicals and vehicles

- 2.1. Classification of Aromatic Chemicals and Vehicles used in the Formulation of Flavors
- 2.2. Esters: Synthesis and Importance in Flavor Development.
- 2.3. Top Notes, Sensation Generators.
- 2.4. Use of the Possible Aromatic Chemicals for the Formulation of Flavors
- 2.5. Memorization of the Aromatic Chemicals Responsible for Flavors
- 2.6. Study of Maillard Reactions in Flavors
- 2.7. Aromatic Chemical Suppliers





### Module 3. Biochemistry

- 3.1. Chemistry of Flavors and Structures; and their Sensory Relationship
- 3.2. Biochemistry and Interactions with the Chemicals Responsible for Flavor
- 3.3. Essential Oils (Fruits, Vegetables and Spices)
- 3.4. Importance of Aromatic Plants
- 3.5. Complexity of Animal Profiles

### Module 4. Creation and methodology

- 4.1. Olfaction, Classification, and Distinguishing Smell and Taste
- 4.2. Memorization of Smell and Flavor
- 4.3. Creation and Basic Methodology in Flavor Development
- 4.4. Experimental Design in Flavor Development
- 4.5. Chromatography Interpretation and Use in Flavor Creation

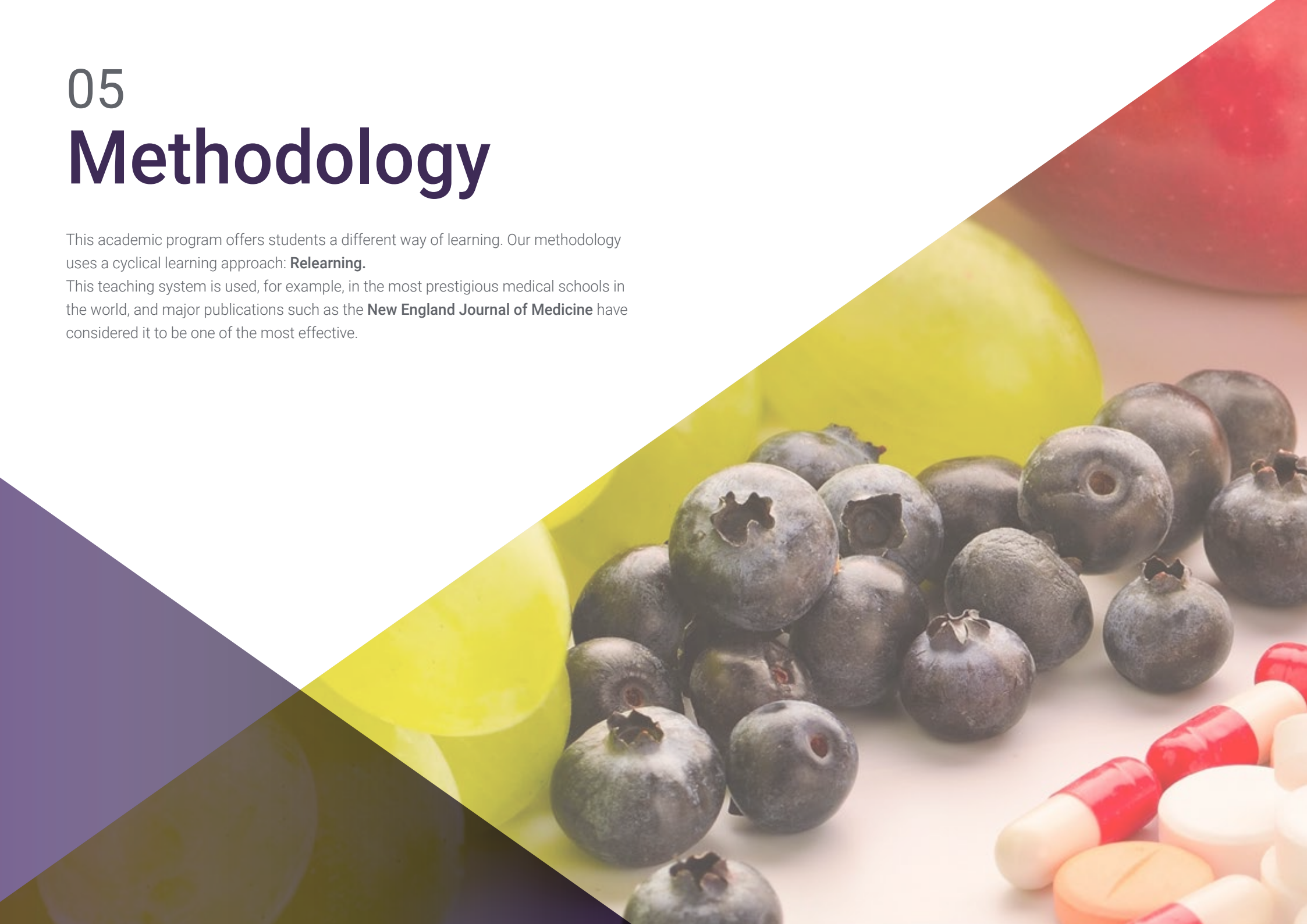
### Module 5. Fundamentals and techniques

- 5.1. Basic Techniques in Instrumental Flavor Analysis
- 5.2. Basic Flavor Notes
- 5.3. Sensory Evaluation of Flavor
- 5.4. Methodology in the Description of Flavors
- 5.5. Application of the Created Flavors in Different Finished Products
- 5.6. Consumer Acceptability and/or Preferences.

# 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.







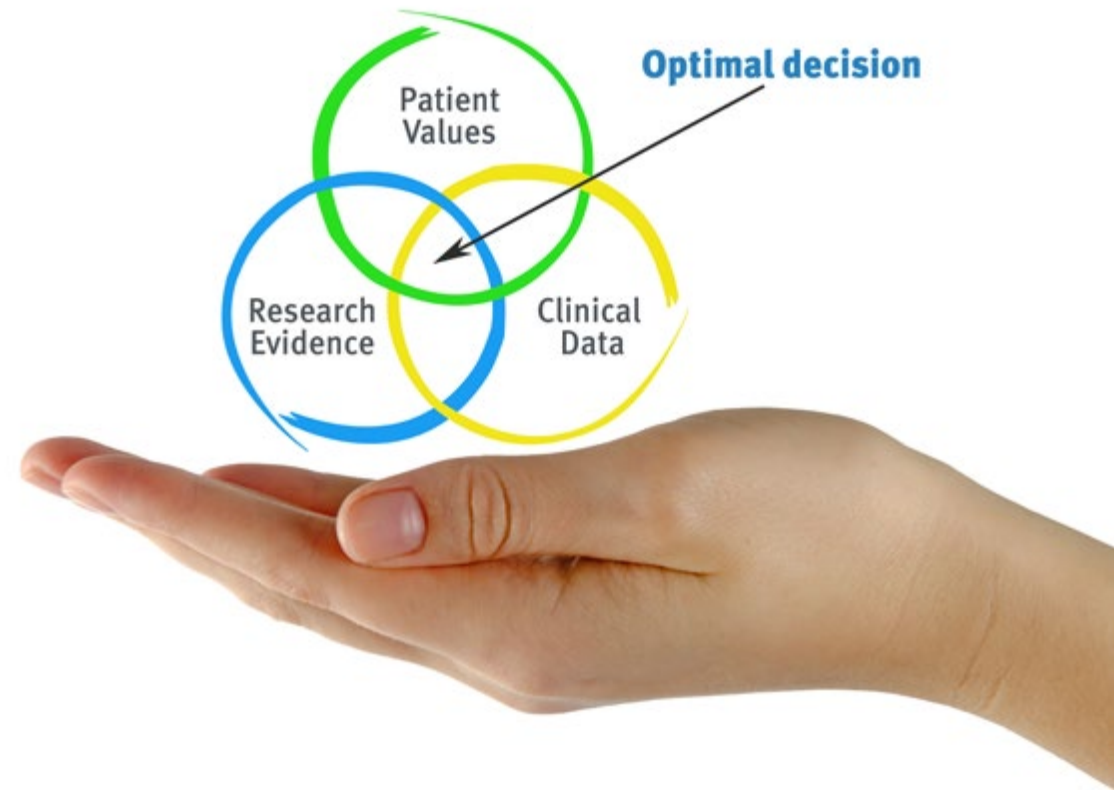
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## 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

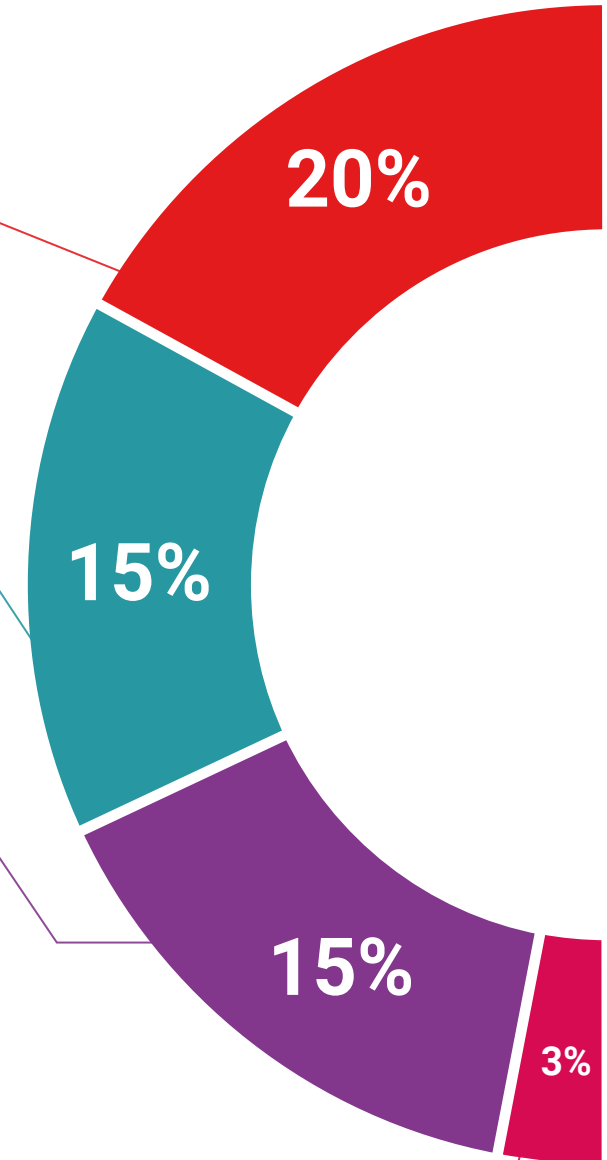
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

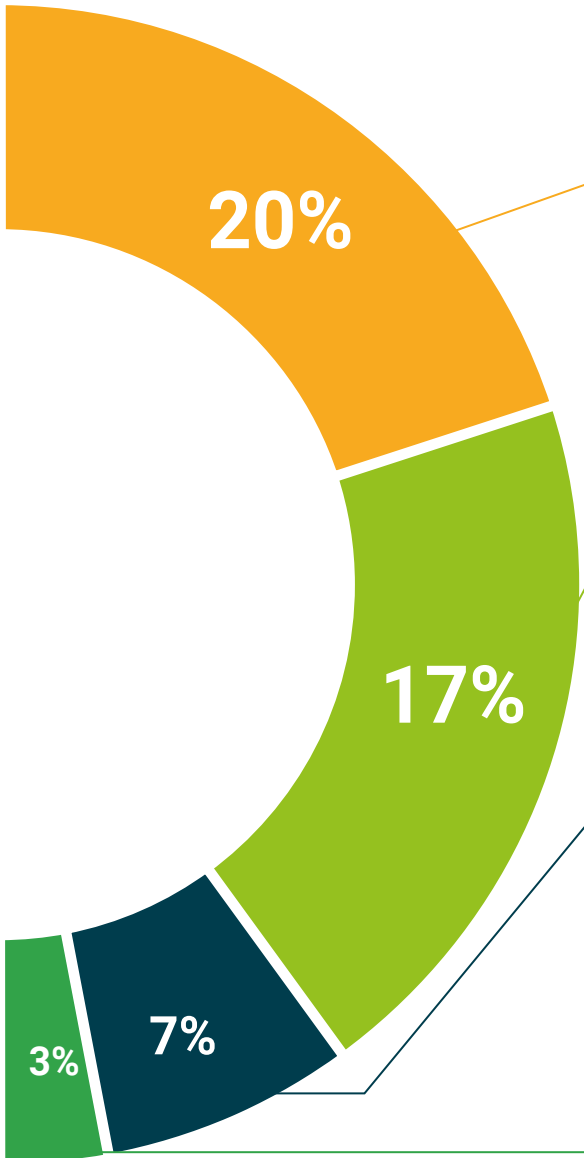


#### Additional Reading

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.



06

# Certificate

Through a different and stimulating learning experience, you will be able to acquire the necessary skills to take a big step in your training. An opportunity to progress, with the support and monitoring of a modern and specialized university, which will propel you to another professional level.



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*Add a Postgraduate Diploma in Procedures and Techniques in Flavor Design to your CV and become a highly competitive professional"*



This program will allow you to obtain your **Postgraduate Diploma in Procedures and Techniques in Flavor Design** 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.

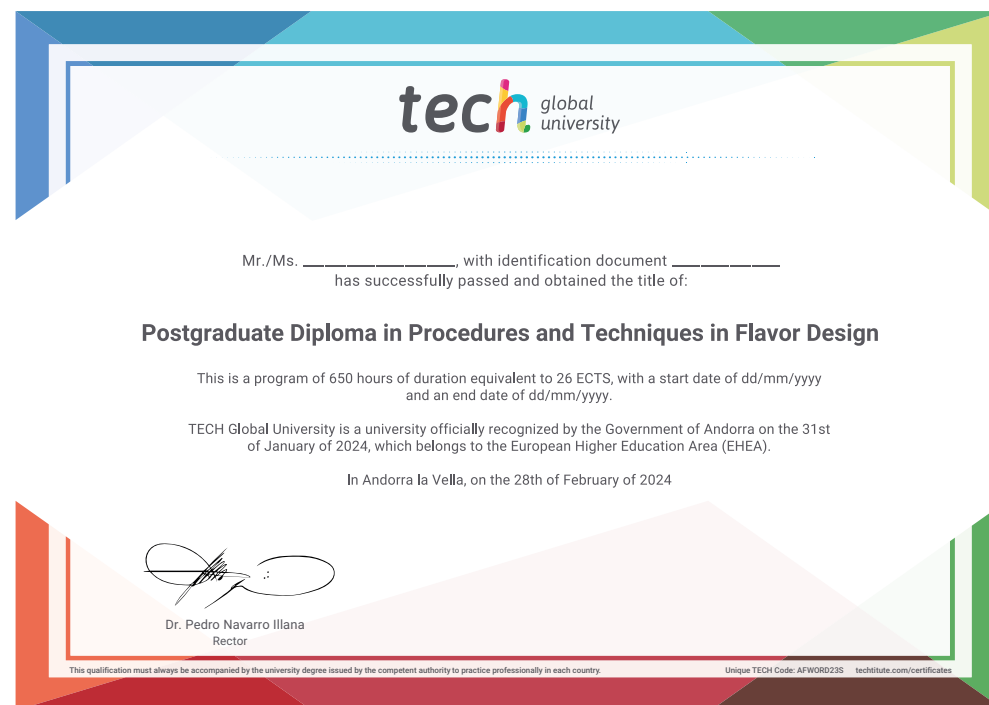
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

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Duration: **6 months**

Accreditation: **26 ECTS**





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