

# Professional Master's Degree

## Flavor Design





## Professional Master's Degree Flavor Design

Course Modality: Online

Duration: 12 months

Certificate: TECH Technological University

Official N° of hours: 1,500 h.

Website: [www.techtute.com/in/nutrition/professional-master-degree/master-flavor-design](http://www.techtute.com/in/nutrition/professional-master-degree/master-flavor-design)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Skills

---

*p. 14*

04

Course Management

---

*p. 18*

05

Structure and Content

---

*p. 22*

06

Methodology

---

*p. 26*

07

Certificate

---

*p. 34*

# 01

# Introduction

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, the Flavor Design program offers, 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.

The flavor designer is constantly evolving. A new profile has emerged, one that is much more in line with new trends and stands out for having biochemical and trend knowledge, practicing active listening with co-workers and being self-critical of the outcome of each project"



“

*The figure of the flavor designer is becoming an indispensable figure in work teams in areas related to gastronomy. A challenge that requires from the professional, an arsenal of knowledge that includes biochemical knowledge, social trends and project development"*

The Professional Master's Degree in Flavor Design is presented as a formative action that favors connection, learning, participation and knowledge construction. A program that aims not only to offering 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 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 provided in the course and the networking incorporated into the course.

This **Professional Master's Degree in Flavor Design** offers you the characteristics of a course of high scientific, teaching and technological level:

- 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



*"With this highly complete Professional Master's Degree, you will get the necessary training to become a professional in flavor design and give your CV an important added value"*

“

*This Professional Master's Degree is not only designed to offer you the most up-to-date contents in Flavor Design, but it has been created to create a creative and stimulating learning environment"*

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. Teachers with vocation that will give the necessary impulse 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 into teamwork, learning to investigate, argue, and defend your ideas and decisions. In this way, we work on the development of other personal and professional skills, essential for personal and professional success.

*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 Professional Master's Degree offers training in simulated environments, which provides an immersive learning experience designed to train for real-life situations.*



# 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 materializes by helping professionals reach a much higher level of expertise and control. A goal that, in just twelve months, you can consider achieved, with a high intensity and precision course.





“

*Our goal is yours: to provide you with the best online training and specialization in flavor design. A one-of-a-kind program that will propel you to the forefront of your industry"*



## General Objectives

---

- Define and classify flavors
- Provide participants with an overview of flavor chemistry and its sensory relationship
- Identify the neural processes that are affected through flavors
- Apply flavor chemistry to the processes
- Identify the main sources and suppliers of aromatic chemicals
- Carry out the Flavor Design process in different environments
- Apply the techniques of maximum innovation in Flavor Design
- Revolutionize gastronomy through chemistry and other techniques
- Understand how to carry out various techniques in Flavor Design



*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"*





## Specific Objectives

---

### Module 1. Introduction to the Study of Flavors

- ◆ Determine the development of flavorings in compliance with existing regulation

### Module 2. Aromatic Chemicals and Vehicles

- ◆ Explain the mixture of aromatic chemicals in flavoring
- ◆ Determine the behavior of aromatic chemicals within the food matrix and all the reactions produced during the food preparation processes

### Module 3. Biochemistry

- ◆ 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

### **Module 6. Basic Exploration of the Evolutionary Implications of Foods**

- ♦ Identify how emotional behavior and its temporary nature occur in the mind, linked biochemically to the neuronal mechanism generating "memories" and "experiences"
- ♦ Understand how the neural processes that generate the formation of memories are associated with flavor stimuli

### **Module 7. Natural Raw Materials Used as Flavorings**

- ♦ Identify the natural raw materials used as flavor components
- ♦ Know the applicable techniques for the purification/improvement of natural raw materials used as flavor components

### **Module 8. Introduction to the Use of Flavorings in Cooking**

- ♦ Determine the quantity of flavorings in the kitchen
- ♦ Identify suitable vehicles for flavors in the kitchen
- ♦ Know the complements of sensations and flavors in the kitchen





### **Module 9. Molecular Gastronomy**

- ◆ Understand the application of laboratory techniques in food preparation
- ◆ Elaborate starters, dishes, desserts and beverages using innovative techniques and materials of molecular cuisine

### **Module 10. Neuromodulators in the Kitchen as Food Flavor Enhancers**

- ◆ Modulate/Eliminate undesirable hints in foods through the use of flavor modulators
- ◆ Highlight desirable flavor hints through the use of flavor neuromodulators

### **Module 11. Affective Flavors**

- ◆ Provoke memories and affective sensations through flavor design

# 03 Skills

Creativity and interest in the new techniques and procedures of modern gastronomy is a common characteristic among the great professionals within this sector. A commitment that pushes them to remain at the forefront of training. This Professional Master's Degree will allow to acquire the skills required in this regard. A very complete approach, developed based on the competencies that real practice requires in daily work, so that each of the topics raised leads to the acquisition of new knowledge and experiences of clear and real utility.



“

*“This Professional Master's Degree is designed to provide you, in a concrete and specific way, with real skills required for the practice of Flavor Design”*



## General Skills

---

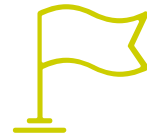
- Apply the processes of creating Flavors in the kitchen
- Know how to use innovative techniques in the creation of flavors
- Handle molecular gastronomy and flavor chemistry

“

*Take the opportunity and take the step to get up to speed on the latest developments in Flavor Design management”*







## Specific Skills

---

- ♦ Define and classify flavors
- ♦ Apply normative regulation in flavor design
- ♦ Use the mixture of chemicals in the flavoring
- ♦ Reaching out to major suppliers of aromatic chemicals
- ♦ Recognize flavors based on their sensory chemistry
- ♦ Generate flavors through chromatography
- ♦ Create flavors
- ♦ Apply one's own flavors
- ♦ Use the implication of emotions in flavors
- ♦ Purify raw materials for use in flavor creation
- ♦ Use vehicles for flavors
- ♦ Correctly measure flavors in cooking
- ♦ Create molecular gastronomy dishes
- ♦ Take advantage of flavor neuromodulators in the kitchen
- ♦ Create evocations through flavors



04

# Course Management

For our professional 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.





“

*An impressive teaching board, 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

### Ms. Carrasco Reyes Maria Luisa

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

### Ms. Castañeda Olivera, Alondra Magdalena

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

### Mr. Coranguez Reyes Gabriel

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

### 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. Chávez Barrios, Meida

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

### Ms. Morales Heredia, Ana Gabriela

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

**Ms. Gómez Pérez, Karen**

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

**Mr. García Zepeda, Rafael**

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

**Mr. Teutle Chávez, Juan Carlos**

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

**Mr. Vargas García, Jorge Luis**

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

**Ms. Martínez Sánchez, Berenice**

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

**Ms. Peña García, Maribel**

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

**Mr. 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. Orozco López, Déborah María**

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

**Mr. Orozco, Carlos**

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

# 05

# Structure and Content

The Professional Master's Degree in Flavor Design is a tailor-made program that is taught in a 100% online format, so you can choose the time and place that best suits your availability, schedule and interests.

For one month, you will go through a complete and well-structured syllabus that will allow you to know each and every one of the essential aspects for the job of flavorist. A stimulating experience that will lay the foundation for your success as a flavor and aroma designer.



“

*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

### Module 6. Basic Exploration of the Evolutionary Implications of Foods

- 6.1. Introduction to Neurogastronomy
- 6.2. Neuromodulators
- 6.3. Odor Communication and Neurocognitive Patterns
- 6.4. Flavor Attributes: Color
- 6.5. Texture and Flavor Appreciation

### Module 7. Oils

- 7.1. Essential Oils
- 7.2. Rectification of Processed Essential Oils
- 7.3. Liquid Extracts and Dyes
- 7.4. Solid Extracts
- 7.5. Exudates
- 7.6. Specific
- 7.7. Absolutes
- 7.8. Concentrated and Diluted Fruit Juices

### Module 8. Introduction to the Use of Flavorings in Cooking

- 8.1. Flavorings in Cooking
- 8.2. Food Preparation
- 8.3. Topical Techniques for the Application of Flavorings in the Kitchen
- 8.4. Food Matrix
- 8.5. Condiments and Seasoning





## Module 9. Molecular Gastronomy

- 9.1. Introduction to Molecular Gastronomy
- 9.2. Techniques: Direct Spherification
- 9.3. Techniques: Indirect Spherification
- 9.4. Techniques: Foams
- 9.5. Techniques: Liquid Nitrogen
- 9.6. Techniques: Gelling
- 9.7. Recipes

## Module 10. Neuromodulators as Food Flavor Enhancers

- 10.1. Enhance Flavor and Fix Food with Modulating Sugars
- 10.2. Blockers for Undesirable Sweetener, Preservative, and Medicinal Notes
- 10.3. Acid Blockers
- 10.4. Omega Blockers
- 10.5. Soy Blockers
- 10.6. Sweet and Savory Note Enhancers

## Module 11. Affective Flavors

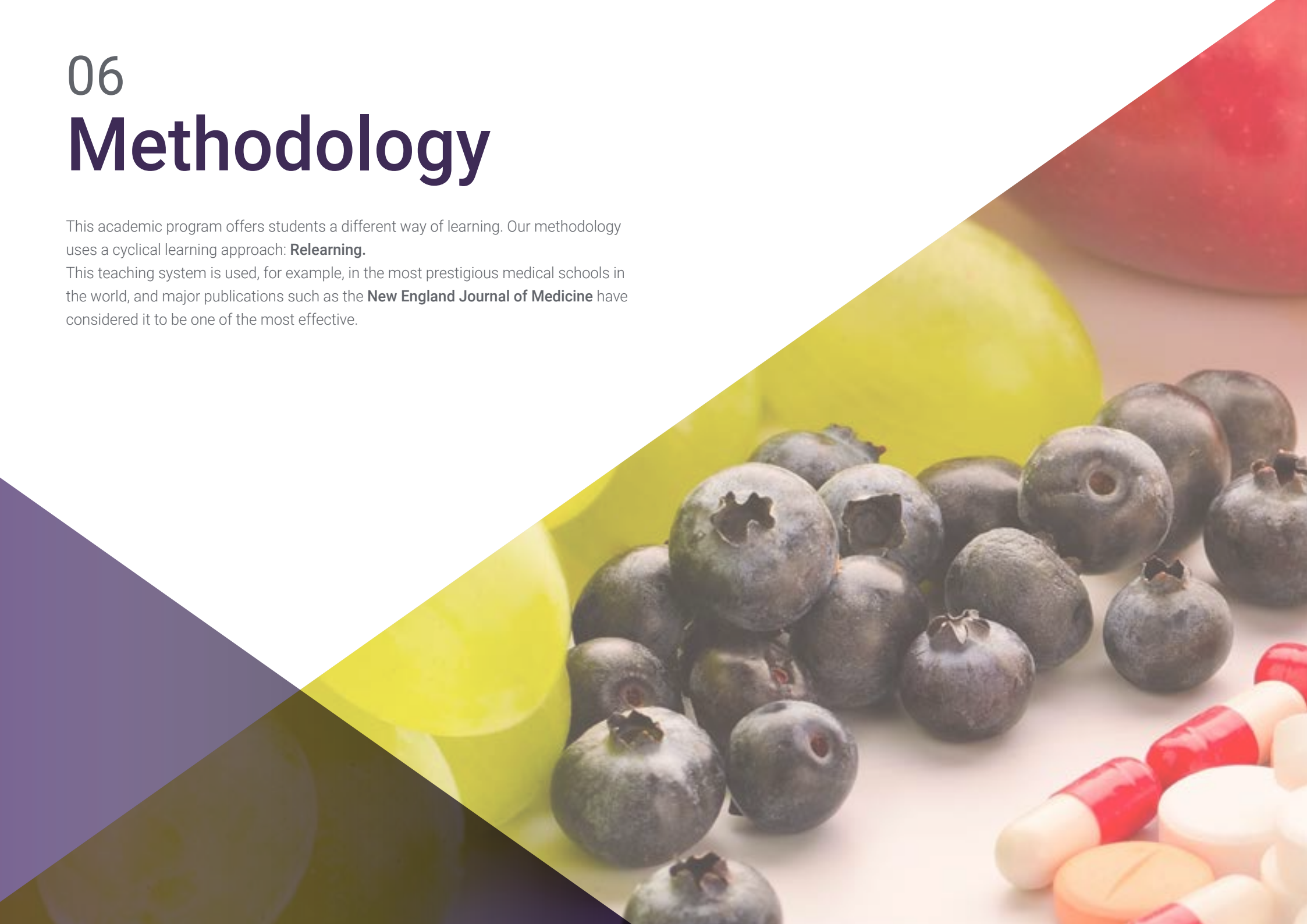
- 11.1. One of the Largest Challenges Today: Remembering is Reliving
- 11.2. Fruit Flavors and their Affective Reactions
- 11.3. Cherry and Chocolate as Generators of Feelings and Passions
- 11.4. Exotic and Tropical Fruits that Evoke Fun and a Party Atmosphere
- 11.5. Christmas Spirit
- 11.6. Mexican Gastronomy National Pride
- 11.7. Importance of Evoking Occurrences, Events, or Information Stored in the Past

06

# 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

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. Gervas, 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.

“

*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 relearn). 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.



07

# Certificate

The Professional Master's Degree in Flavor Design guarantees you, in addition to the most rigorous and updated training, access to a Professional Master's Degree issued by TECH Technological University.





“

*Successfully complete this program  
and receive your university degree  
without travel or laborious paperwork”*

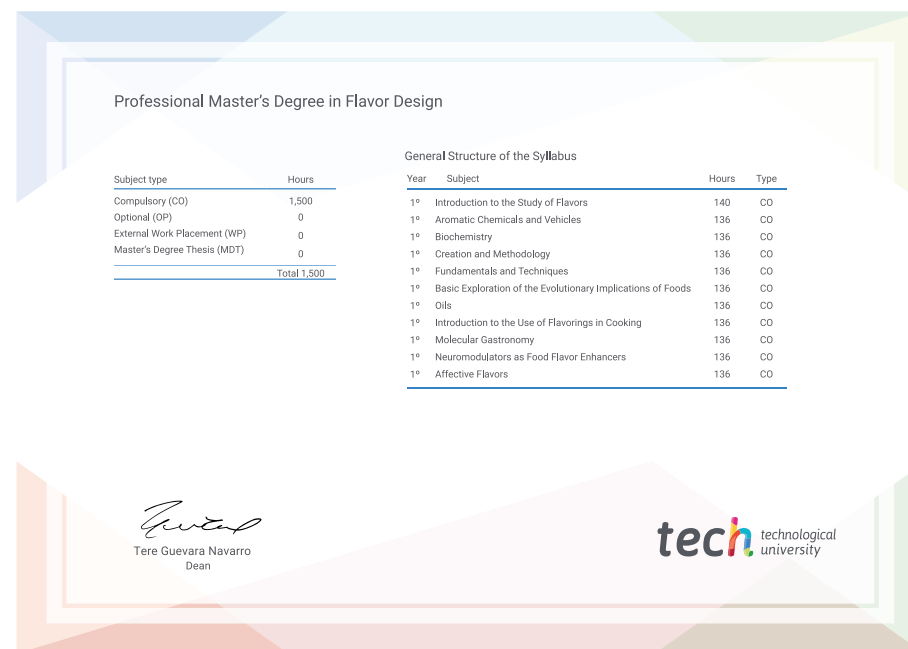
This **Professional Master's Degree in Flavor Design** contains the most complete and updated scientific program on the market.

After the student has passed the evaluations, they will receive their corresponding **Professional Master's Degree** from **TECH Technological University** via tracked delivery\*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Professional Master's Degree in Flavor Design**

Official N° of hours: **1,500 h.**



\*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION 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 quality

online training  
development languages

virtual classroom

**tech** technological  
university

**Professional Master's  
Degree**

Flavor Design

Course Modality: Online

Duration: 12 months

Certificate: TECH Technological University

Official N° of hours: 1,500 h.

# Professional Master's Degree Flavor Design

