

# Postgraduate Certificate

## Cosmetic Design, Development and Manufacturing



## Postgraduate Certificate

### Cosmetic Design, Development and Manufacturing

Course Modality: **Online**

Duration: **12 weeks**

Certificate: **TECH Technological University**

Official N° of hours: **300 h.**

Website: [www.techtute.com/us/medicine/postgraduate-certificate/cosmetic-design-development-manufacturing](http://www.techtute.com/us/medicine/postgraduate-certificate/cosmetic-design-development-manufacturing)

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# 01

# Introduction

It is of vital importance for the medical professional to have up-to-date knowledge on the available drugs to prescribe for a given treatment. In the case of dermatological problems or skin conditions, it is necessary to know in depth the cosmetics and products to be handled. However, it is not enough to identify them, the medical professional must also know about their design, development and elaboration, in order to recognize the properties, components and their respective function in the skin. This is why this 100% online program seeks to provide medical professionals with the latest updates and postulates that cover the development of cosmetic products, including modules on biotechnology in nutrition, cosmetic packaging and R+D. The specialist will have the freedom to adapt the syllabus to his or her own pace, without the usual pressure of face-to-face classes or fixed schedules.





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*Update your knowledge and identify the main components of cosmetic products, delving into the properties of each one and their respective benefits for the skin”*

Knowing the process of Cosmetic Design, Development and Manufacturing is of vital importance for professionals in the medical sector, since they are the ones who in the future can incorporate the different products in their various medical treatments. In addition to this, it should be noted that with the scientific advances of recent times, there are several developments that are still unknown to the public sector and that can only be shown through academic processes such as the development of this Postgraduate Certificate.

In this way, the medical professional will delve into the latest relevant connotations in the field of dermatology, identifying the proper manufacturing processes and in turn the benefit of each raw material component. This Postgraduate Certificate is an invitation to medical personnel to renew their knowledge and perfect their skills in favor of skin care, a sector that has been booming in recent years.

That is why TECH has decided to launch this Postgraduate Certificate. This is a 100% online program that will allow the medical professional to get up to date with the latest advances in cosmetics development. During the course of the program, the physician will be able to download the content to be worked on, review it from any mobile device with an internet connection and access the Virtual Campus to review the different tools provided. A degree full of audiovisual, didactic and informative material

This **Postgraduate Certificate in Cosmetic Design, Development and Manufacturing** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ Practical cases presented by experts in Cosmetic Science and Technology
- ♦ 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 the self-assessment process can be carried out to improve learning
- ♦ 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

“ You will be able to consult the content of the program and review it as many times as necessary, needing only a mobile device with internet connection ”



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*Do you want to know what the components of cosmetics are and what each one provides for the benefit of the skin? Take this program and receive the latest updates in the cosmetic sector”*

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

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*A program full of vital information on cosmetic product development that you can add to your medical expertise.*

*Identify from the elaboration of each cosmetic its benefits for the skin and apply it in your different treatments.*



# 02 Objectives

TECH's main objective for this Postgraduate Certificate in Cosmetic Design, Development and Manufacturing is to provide the medical professional with the latest updates covering products for skin care and improvement. It is relevant, precise and effective information that nourishes the professional's knowledge and brings him/her up to date with the most recent updates in the sector through a demanding methodology of practical exercises, audiovisual material and scientific postulates.





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*Expand your knowledge in TECH and identify the due process of design, development and manufacturing of cosmetic products”*



## General Objectives

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- Analyze the main active ingredients according to their origin and nature
- Compile all compounds needed to formulate cosmetic products
- Determine the different types of Cosmetic Product according to their Composition
- Evaluate the benefits of nanotechnology and biotechnology in cosmetics
- Develop a global vision of the manufacturing process of a cosmetic product, from the initial idea to its launching on the market
- Analyze the processes that take place from the reception of raw materials to their final distribution, as well as the implementation of good manufacturing practices, quality control and validation of the processes, and the different water purification treatments as the main raw material used in the formulation of cosmetics
- To examine the raw materials used for the development of new cosmetic products
- Establishing the different ways of formulating cosmetic products



*An online program that allows you to have time available for your daily tasks, without the need for you to travel to any physical location"*





## Specific Objectives

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- ♦ Analyze the most commonly used natural and synthetic active ingredients and main properties
- ♦ Evaluate the role of vitamins and biological compounds in cosmetic products
- ♦ Examine the main types of sunscreens, properties and features
- ♦ Identify the main compounds in cosmetic formulations
- ♦ Determine new trends in cosmetic product formulation and their benefits
- ♦ Demonstrate how science has enhanced cosmetics
- ♦ Analyze the process that a product goes through from its small-scale creation in the laboratory to its production on an industrial scale
- ♦ Develop the different raw materials that make up the skeleton of a cosmetic product one at a time
- ♦ Examine the plastics or packaging used in the cosmetic industry
- ♦ Determine the different operations and basic manufacturing processes of the different cosmetic forms under the UNE-EN-ISO standard: 22716:2008
- ♦ Evaluate the different cosmetic forms on the market
- ♦ Establish the importance of R&D&I in cosmetic products development; innovation remains key to consumer requirements
- ♦ Compile the steps involved in perfume development, essence and subsequent applicability



03

# Course Management

In its commitment to academic excellence TECH has selected a well-versed faculty full of experience in the field of cosmetics manufacturing. It is a group of active teachers who have dedicated themselves to skin care, improving in many practical cases the current cosmetics for the benefit of the skin. In addition to this, the teachers will be there to solve the doubts and concerns of the professionals, making the development of the program an enriching experience.



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*A teaching team made up of knowledgeable specialists in the dermatological field, who will provide you with all the necessary information on the latest updates in the sector"*



## Management



### Dr. Mourelle Mosqueira, María Lourdes

- ◆ Expert researcher in Cosmetic Science
- ◆ Technical Director at Balcare
- ◆ Researcher of the FA2 group of the Applied Physics Department of the University of Vigo
- ◆ Author of publications on Cosmetic Science
- ◆ Lecturer in undergraduate and graduate programs related to Cosmetic Science
- ◆ President of the Iberoamerican Society of Thalassotherapy
- ◆ Secretary of the Galician Society of Thermal Peloids
- ◆ PhD in Applied Physics, University of Vigo
- ◆ Degree in Pharmacy, University of Santiago de Compostela
- ◆ Diploma in Nutrition and Dietetics, University of Granada



## Professors

### Dr. Pando Rodríguez, Daniel

- ◆ CEO and co-founder of Nanovex Biotechnologies
- ◆ Director of INdermal
- ◆ Researcher in Biotechnology for Medicine and Cosmetics
- ◆ PhD in Chemical Engineering, University of Oviedo
- ◆ Degree in Chemical Engineering, University of Oviedo
- ◆ Master's Degree in Business Administration and Project Management, ENEB

### Dr. Abril González, Concepción

- ◆ Chemist Chromatography Specialist, Bordas S.A
- ◆ Food Products Analyst for foreign trade at the Technical Inspection of Soivre in Seville
- ◆ Chromatography Analyst at Agrama Laboratories
- ◆ Researcher in the Analytical Chemistry Department at Anquimed
- ◆ PhD in Analytical Chemistry, University of Seville
- ◆ Master's Degree in Professional Specialization in Pharmacy: Pharmaceutical Industry, University of Seville
- ◆ Master's Degree in Cosmetics and Dermopharmacy from the University of Seville
- ◆ Degree in Chemistry, University of Seville
- ◆ Master's Degree in Cosmetics and Dermopharmacy

# 04

## Structure and Content

The content of this program has been designed through a rigorous process, since each of the topics of the modules comprises a series of specific knowledge developments. Under the Relearning method, TECH seeks to strengthen the main concepts of the subject and its way of study. With audiovisual material, specifically selected readings and practical workshops, the specialist will achieve his goal.





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*A syllabus full of information and updates on the main methods and changes that the cosmetics manufacturing process has undergone to review it at any time you wish"*

## Module 1. Cosmetic Ingredients

- 1.1. Active Ingredients of Natural Origin I: Plant Origin
  - 1.1.1. Plant-Derived Active Ingredients in Skin Care
  - 1.1.2. Plant-Derived Active Ingredients in Hair Care
  - 1.1.3. Other Applications of Plant-Derived Active Ingredients
- 1.2. Active Ingredients of Natural Origin II: Animal and Mineral Origin
  - 1.2.1. Animal and Mineral-Derived Active Ingredients in Skin Care
  - 1.2.2. Animal and Mineral-Derived Active Ingredients in Hair Care
  - 1.2.3. Other Applications of Animal and Mineral-Derived Active Ingredients
- 1.3. Synthetic Active Ingredients
  - 1.3.1. Synthetically Derived Active Ingredients in Skin Care
  - 1.3.2. Synthetically Derived Active Ingredients in Hair Care
  - 1.3.3. Other Applications of Synthetically Derived Active Ingredients
- 1.4. Vitamins and Biological Compounds
  - 1.4.1. Vitamins in Cosmetics
  - 1.4.2. Proteins Peptides in Cosmetics
  - 1.4.3. Prebiotics and Probiotics in Cosmetics
  - 1.4.4. Other Biological Compounds in Cosmetics
- 1.5. Sunscreens
  - 1.5.1. Sunscreens in Cosmetics: Operation and Classification
  - 1.5.2. Chemical Sunscreens
  - 1.5.3. Physical Sunscreens
- 1.6. Surfactants, Emulsifiers and Rheology Modifiers
  - 1.6.1. Surfactants and emulsifiers: structures, properties and types
  - 1.6.2. Use of Surfactants and Emulsifiers in Cosmetic Formulations
  - 1.6.3. Rheology Modifiers
- 1.7. Colorants and Pigments
  - 1.7.1. Natural and Synthetic Dyes
  - 1.7.2. Organic and Inorganic Pigments
  - 1.7.3. Formulations with Dyes and Pigments





- 1.8. Preservatives
  - 1.8.1. Uses of Preservatives in Cosmetics
  - 1.8.2. Preservatives of Natural Origin
  - 1.8.3. Preservatives of Synthetic Origin
- 1.9. Biotechnology in Cosmetics
  - 1.9.1. Biotechnology in Cosmetics
  - 1.9.2. Biotechnological Tools for Cosmetics
  - 1.9.3. Cosmetic Active Ingredients Derived from Biotechnology
- 1.10. Nanotechnology in Cosmetics
  - 1.10.1. Nanotechnology in Cosmetics
  - 1.10.2. Nanotechnological Tools and Systems in Cosmetics
  - 1.10.3. Uses of Nanotechnological Systems: Advantages and Benefits

## Module 2. Cosmetics Development and Manufacturing

- 2.1. The Cosmetic Industry
  - 2.1.1. The Cosmetic Industry Sector
  - 2.1.2. Briefing or Initial Idea
  - 2.1.3. Laboratory to Pilot Testing
- 2.2. Cosmetic Product Manufacturing Processes
  - 2.2.1. Manufacturing and Subsequent Quality Control
  - 2.2.2. Packaging, Conditioning and Labeling
  - 2.2.3. Storage and Distribution
- 2.3. Raw Materials for Cosmetics Manufacturing
  - 2.3.1. Water Used in the Cosmetic Industry
  - 2.3.2. Antioxidants and Preservatives
  - 2.3.3. Moisturizers, Emulsifiers, Silicones and Polymers
- 2.4. Cosmetic Packaging
  - 2.4.1. Materials
  - 2.4.2. Trends in Cosmetic Packaging
  - 2.4.3. Packaging for Children's Cosmetics
- 2.5. Manufacturing Operations and Processes in Different Cosmetic Forms
  - 2.5.1. Good Manufacturing Practices for Cosmetic Products UNE-EN-ISO: 22716:2008
  - 2.5.2. Formulations Prior to Cosmetic Development
  - 2.5.3. Prototypes Preparation and Formulation Examples
- 2.6. R&D in Cosmetic Product Development
  - 2.6.1. New Cosmetic Forms
  - 2.6.2. TOP Cosmetic Ingredients
  - 2.6.3. New Plant-Derived Ingredients
- 2.7. Solution, Suspension and Emulsion Preparation
  - 2.7.1. Textures
  - 2.7.2. Aqueous, Micellar and Oily Solutions
  - 2.7.3. Suspensions and Emulsions
  - 2.7.4. Gels and Cremigels
- 2.8. Solid and Semi-Solid Cosmetics Preparation
  - 2.8.1. Sustainability and Practicality
  - 2.8.2. Sensoriality and Efficiency: New Formats
    - 2.8.2.1. Soaps and Syndets
    - 2.8.2.2. Ointments and Salves
  - 2.8.3. Loose vs. Compact Powders: Uses
- 2.9. Other Cosmetic Forms and Substrates
  - 2.9.1. Aerosols
  - 2.9.2. Foams
  - 2.9.3. Single Doses
    - 2.9.3.1. Mask Tissue
    - 2.9.3.2. Impregnated Wipes
- 2.10. Perfume Manufacturing
  - 2.10.1. Perfume: Background
  - 2.10.2. Raw Material Origin, Composition and Application
  - 2.10.3. Alcoholic Fine Perfumery
  - 2.10.4. IFRA Standards

# 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

What should a professional do in a given situation? 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 you will 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 in the physician's professional practice.



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

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

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. 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.

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



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

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

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



#### Surgical Techniques and Procedures on Video

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



#### Interactive Summaries

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

This exclusive 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 on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

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





# 06 Certificate

The Postgraduate Certificate in Cosmetic Design, Development and Manufacturing guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





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

This **Postgraduate Certificate in Cosmetic Design, Development and Manufacturing** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees..

Title: **Postgraduate Certificate in Cosmetic Design, Development and Manufacturing**

Official N° of hours: **300 h.**



\*Apostille Convention. In the event that the student wishes to have their paper diploma 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  
development languages  
virtual classroom

**tech** technological  
university

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Certificate: TECH Technological University

Official N° of hours: 300 h.

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