

# Postgraduate Certificate

## Excipients and Adjuvants in Pharmaceutical Compounding





## Postgraduate Certificate Excipients and Coadjuvants in Pharmaceutical Compounding

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/pharmacy/postgraduate-certificate/excipients-adjuvants-pharmaceutical-compounding](http://www.techtute.com/us/pharmacy/postgraduate-certificate/excipients-adjuvants-pharmaceutical-compounding)

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01

# Introduction

The advance of industry and the discovery of new synthetic medicines has transformed the concept of medicine. We have gone from customized medicine for a specific patient and specific needs, to mass-produced medicine. That is, for a specific disease, but intended for a large number of patients.





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*Learn about the latest advances in Excipients and Adjuvants in Pharmaceutical Compounding and improve your patient care”*

Mass-produced medicine has led to many advances in contemporary medicine, and many patients have found a cure for their diseases.

However, mass-produced medicine does not cover all therapeutic needs. For various reasons, there are therapeutic gaps that only the customized medicine can fill.

Pharmaceutical compounding or, nowadays, "customized medicine" is the essence of the pharmaceutical profession. Customized patient care was the starting point of human medicine.

The pharmaceutical compound, understood as the medicine intended for an individual patient, prepared by or under the direction of a pharmacist, to expressly comply with a detailed medical prescription for the medicinal substances in question, requires that work complies with strict and faithfully reproducible procedural guidelines. Thus, pharmacists need to be up-to-date and undergo continuous professional development on the requisite knowledge and relevant standards for the correct preparation and quality control of pharmaceutical compounds.

The objective of this program is to introduce pharmacists to a unique and exclusive field in their profession, so that they can respond to therapeutic gaps with the formulation of customized medicine which matches the quality and efficacy of a mass-produced medicinal product.

This **Postgraduate Certificate in Excipients and Adjuvants in Pharmaceutical Compounding** contains the most complete and up-to-date scientific program on the market. Its most notable features are:

- ♦ The examination of clinical cases presented by pharmacology experts. Graphic, schematic, and eminently practical contents providing scientific and practical information on the disciplines that are essential for professional practice
- ♦ News about the latest developments in Excipients and Adjuvants in Pharmaceutical Compounding
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the program
- ♦ A special emphasis on test-based medicine and research methodologies in Excipients and Adjuvants in Pharmaceutical Compounding
- ♦ All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and assignments for individual reflection
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*Update your knowledge with the Postgraduate Certificate in Excipients and Adjuvants in Pharmaceutical Compounding, in a practical way that is tailored to your needs"*

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*This Postgraduate Certificate is the best investment you can make when selecting a refresher program, for two reasons: in addition to updating your knowledge in Excipients and Adjuvants in Pharmaceutical Compounding, you will obtain a Postgraduate Certificate from TECH Technological University"*

The teaching staff comprises healthcare professionals from the field of pharmaceutical compounding, who pour their professional experience into this program, in addition to renowned specialists belonging to leading scientific societies.

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 learning to prepare students for real situations.

This program is designed around Problem-Based Learning, whereby the Care Services must try to solve the different professional practice situations that arise during the course. For this reason, you will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field of Pharmacology with extensive teaching experience.

*The Postgraduate Certificate includes real case studies and exercises to bring the contents of the program closer to the professional practice of the pharmacist.*

*Seize the opportunity to update your knowledge in Excipients and Adjuvants in Pharmaceutical Compounding and improve your patient care.*



# 02 Objectives

The main objective of the program is the development of both theoretical and practical learning, so that the professional can master, in a practical and rigorous way, Excipients and Adjuvants in Pharmaceutical Compounding.





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*This refresher program will generate a sense of confidence in daily professional practice, which will help you to grow personally and professionally”*



## General Objectives

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- ◆ Ensure the correct preparation by the pharmacist of pharmaceutical compounds and non-prescribed preparations according to current regulations
- ◆ Update knowledge, skills and approaches for this sector

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*Make the most of this opportunity and take the next step to get up to date on the latest developments in Excipients and Adjuvants in Pharmaceutical Compounding”*





## Specific Objectives

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- ♦ Differentiate the different types of water used in pharmaceutical compounding
- ♦ Build knowledge relating to simple excipients
- ♦ Explore the fundamentals of compound excipients
- ♦ Explain the correct weighing process in the Elaboration of Customized Formulas
- ♦ Explain the correct pulverization process and the tools to carry it out
- ♦ Define the factors influencing pulverization
- ♦ Explain the rheological properties of the substances to be pulverized
- ♦ Explain the different screening procedures
- ♦ Describe the mixing and homogenization process
- ♦ Explain the types of sounds according to their humidity
- ♦ Define the different sterilization systems and their application
- ♦ Explain the different filtration systems and modes in pharmaceutical compounding
- ♦ List the stages of the freeze-drying process

03

# Course Management

The teaching staff for this program includes renowned healthcare professionals from the field of Pharmaceutical Compounding, who use their professional experience for the benefit of their students. In addition, renowned specialists, who are members of prestigious national and international scientific communities, are involved in design and preparation of the program.





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*Learn about the latest advances in Excipients and Adjuvants in Pharmaceutical Compounding from leading professionals"*

## Management



### Dr. Sánchez Guerrero, Amelia

- ♦ Head of Hospital Pharmacy Service at the U.H Puerta de Hierro Majadahonda since February 2015
- ♦ Doctorate degree. PhD Complutense University (Madrid)
- ♦ Degree in Pharmacy. Complutense University, (Madrid)
- ♦ Member of the Teaching Commission. Puerto de Hierro U.H Majadahonda
- ♦ Chairman of the Pharmacy and Therapeutics Committee. Puerto de Hierro U.H Majadahonda
- ♦ Know, understand and value your pharmacist within the hospital. Correo Farmacéutico Award for one of the Best Pharmacy Initiatives of the Year 2017 in the Pharmaceutical Care and Health Education section. Madrid, April 2018
- ♦ Know, understand and value your pharmacist within the hospital. Sanitaria 2000 Award "Visibility of the hospital pharmacist in the hospital setting" organized by the SEFH and Redacción Médica. IV Global Meeting of Hospital Pharmacy. Córdoba, April 2018

## Professors

### Dr. Santiago Prieto, Elvira

- ♦ Head of the non-hazardous sterile, non-sterile and nutritional drug processing area of the Pharmacy Service of Puerta de Hierro U.H Madrid
- ♦ Assistant pharmacist. Puerto de Hierro U.H - Majadahonda
- ♦ Specialist Pharmacist in Hospital Pharmacy, hired by the Foundation for Biomedical Research of the Puerta de Hierro University Hospital. 2013-2014
- ♦ Resident Pharmacist. Specialization in Hospital Pharmacy. Puerto de Hierro U.H - Majadahonda. 2009-2013
- ♦ Degree in Pharmacy. Faculty of Pharmacy. Complutense University of Madrid
- ♦ Master's Degree in Pharmaceutical Sciences. Speciality: "Community pharmacy and quality of care". UCM

### Ms. Rodríguez Marrodán, Belén

- ♦ FEA Specialist in Hospital Pharmacy. Pharmacy Department. Puerto de Hierro U.H Majadahonda
- ♦ Degree in Pharmacy from the Complutense University of Madrid
- ♦ Specialist in Hospital Pharmacy. Ministry of Education and Culture
- ♦ Member of the Working Group on Safety in the Use of Medication in Pediatrics. Puerto de Hierro U.H Majadahonda
- ♦ Member of the Clinical Research Ethics Committee (CEIm). Puerto de Hierro U.H Majadahonda
- ♦ Hospital Pharmacy Resident Tutor. Puerto de Hierro U.H Majadahonda
- ♦ Member of the Medicines Committee. Spanish Association of Pediatrics
- ♦ SMFH Secretariat. Madrid Society of Hospital Pharmacists
- ♦ Member of the Quality of Care and Patient Safety Working Group. Spanish Society of Hospital Pediatrics
- ♦ Diploma in Pharmaceutical Oncology. University of Valencia

### Dr. García Sanz, Elena

- ♦ Assistant in the Hospital Pharmacy Service of the Puerta de Hierro U.H Majadahonda
- ♦ Degree in Pharmacy. Complutense University of Madrid
- ♦ Master's Degree in Pharmaceutical Care in the Pharmaceutical Care environment. University of Valencia
- ♦ Doctor of Pharmacy. Complutense University of Madrid
- ♦ Member of the Procurement Group of the Council. General Subdirectorate of Pharmacy and PS of the Council
- ♦ Associate Professor of Student Internships 5th year Pharmacy. Complutense University, (Madrid)

### Dr. Gumiel Baena, Inés

- ♦ Inpatient pharmaceutical care. Puerta de Hierro U. Hospital Majadahonda (Madrid)
- ♦ Degree in Pharmacy. Complutense University of Madrid, Spain. 2010-2015
- ♦ Speciality in Hospital Pharmacy. Puerto de Hierro University Hospital Majadahonda, Madrid - 2016 - 2020
- ♦ Master's Degree in Health Products. University of Granada. Feb-Dec 2019
- ♦ Pharmacokinetics. Severo Ochoa University Hospital
- ♦ Primary Care Pharmacy. Northwest Assistance Directorate. SERMAS
- ♦ General Subdirectorate of Pharmacy and sanitary products. Ministry of Health of SERMAS
- ♦ Antibiotic optimization program. Getafe University Hospital

04

# Structure and Content

The syllabus has been designed by a team of professionals, aware of the importance of professional development in Excipients and Adjuvants in Pharmaceutical Compounding, committed to excellent teaching using new educational technologies.





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*This Postgraduate Certificate in Excipients and Adjuvants in Pharmaceutical Compounding contains the most complete and up-to-date scientific program on the market”*

## Module 1. Excipients and Bases Used in Pharmaceutical Compounding

- 1.1. Water, the Most Commonly Used Excipient
  - 1.1.1. Types of Water Used in Pharmaceutical Compounding
    - 1.1.1.1. Purified Water
    - 1.1.1.2. Water for Injectables
  - 1.1.2. Procurement
- 1.2. Simple Excipients
  - 1.2.1. Non-Aqueous Excipients
  - 1.2.2. Other Commonly Used Excipients
  - 1.2.3. Excipients of Obligatory Declaration
- 1.3. Compound Excipients
  - 1.3.1. Solid Oral Forms
  - 1.3.2. Liquids Oral Forms
  - 1.3.3. Compound Bases

## Module 2. Adjuvants in Individualized Formulation

- 2.1. Preservatives
  - 2.1.1. Antioxidants
  - 2.1.1. Antimicrobials:
- 2.2. Expiration of Pharmaceutical Compounds
- 2.3. Correctors of Organoleptic Characteristics of a Formula
  - 2.3.1. Flavorings
  - 2.3.2. Aromatizers
  - 2.3.3. Dyes



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*A unique, key and decisive training experience to boost your professional development”*

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.





*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 be confronted with multiple simulated clinical cases based on real patients, in which they will have to investigate, establish hypotheses and ultimately, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Pharmacists learn better, more quickly 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, attempting to recreate the actual conditions in a pharmacist'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. Pharmacists who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their 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.

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.

*Pharmacists 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 115,000 pharmacists have been trained with unprecedented success in all clinical specialties, regardless of the surgical load. This pedagogical methodology is developed in a highly demanding environment, with a university student body with a high socioeconomic 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 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 created specifically for the course by specialist pharmacists who will be teaching the course, so that the didactic development is highly specific and accurate.

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.



### Video Techniques and Procedures

TECH introduces students to the latest techniques, to the latest educational advances, to the forefront of current pharmaceutical care procedures. All of this, first hand, and explained and detailed with precision to contribute to assimilation and a better understanding. And best of all, you can watch them as many times as you want.



### Interactive Summaries

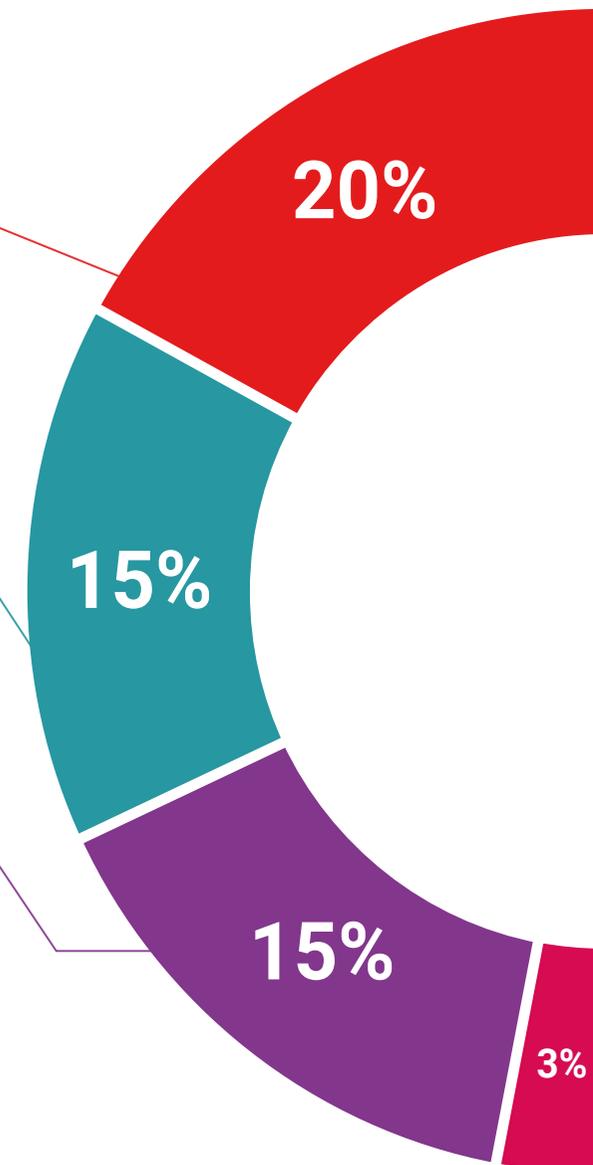
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

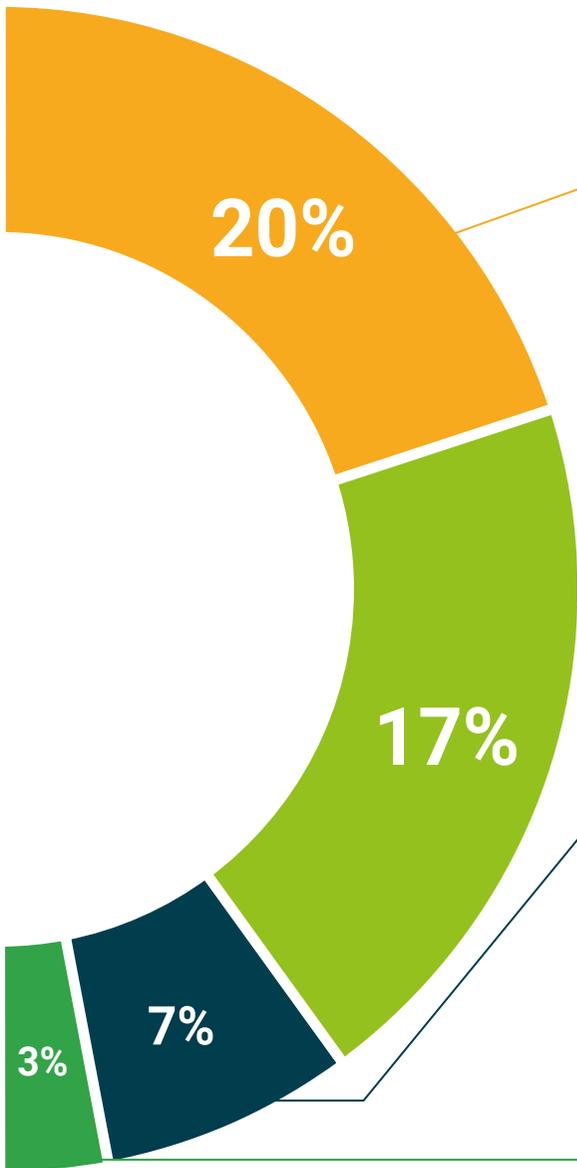
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



### 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, we will present you with real case developments in which the expert will guide you through 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 Excipients and Adjuvants in Pharmaceutical Compounding guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Excipients and Adjuvants in Pharmaceutical Compounding** contains the most complete and updated 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 Excipients and Adjuvants in Pharmaceutical Compounding**

Official N° of hours: **150 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.



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