

Postgraduate Certificate  
Hospital Pharmacology  
in Infectious Pathology



## Postgraduate Certificate Hospital Pharmacology in Infectious Pathology

- » 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/hospital-pharmacology-infectious-pathology](http://www.techtute.com/us/pharmacy/postgraduate-certificate/hospital-pharmacology-infectious-pathology)

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# 01

# Introduction

The prudent use of antibiotics requires an interdisciplinary participation in which the pharmacy, both hospital and community, plays a fundamental role, which has been recognized in institutional documents, where the pharmacist will establish antibiotic control policies, together with physicians and specialists in information systems and infection management. Due to the importance of the sector, this program has been opened which will provide the professionals with exclusive content in the development of therapeutic and monitoring plans based on medication related problems, patient and disease specific information and laboratory data. This will be done in a 100% online format providing the flexibility that the student requires.





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*This Postgraduate Certificate provides the specialist with the best content in Hospital Pharmacology in Infectious Pathology”*



In the last 10 years, numerous studies have shown the importance of applying pharmaceutical care procedures in patient follow-up, both at the hospital level and in community pharmacies. A systematic review assessed the available evidence on clinical pharmacist interventions, identifying antimicrobial therapeutics as one of them. Professionals in this field have been working on the optimization of individualized drug therapy for patients to obtain the best health outcomes through the active participation of pharmacists.

In this sense, research and different studies have progressed in this field of study to answer multiple questions, making it clear that pharmacy professionals must continue to update themselves in this area of knowledge. Thus, this Postgraduate Certificate will provide the expert with new developments in the field of Hospital Pharmacology in Infectious Pathology and the analysis of diseases such as Pneumonia, Meningitis or Sepsis.

The expert will expand their knowledge in specific aspects related to strategies for the procurement, preparation and administration of time-sensitive therapies. A program that integrates a highly qualified and specialized teaching team that at the same time is supported by quality multimedia content, offering dynamism making the student's academic experience better and also enjoying the convenience of the online modality.

That is why TECH thinks about comfort and excellence, in a program that offers the most complete update and of the highest standards, thus being a program of great flexibility by only needing an electronic device with Internet connection availability to access without difficulties to the virtual platform from the comfort of the place where you are.

This **Postgraduate Certificate in Hospital Pharmacology in Infectious Pathology** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ The development of practical cases presented by experts in Pharmacy, Hospital Management, among others
- ◆ 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 self-assessment can be used to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*At TECH you will continue to expand your knowledge and you will be able to answer questions in pathologies such as Pneumonia and Sepsis”*

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*In this Postgraduate Certificate you will strengthen your skills in the area of Infectious Pathology through 150 hours of the best theoretical and practical content”*

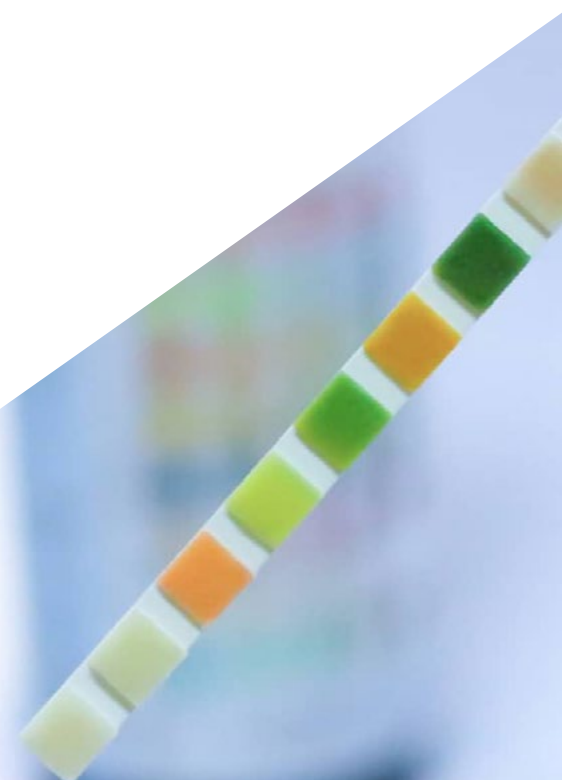
The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

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

The design of this program focuses on Problem-Based Learning, by means of which the professionals must try to solve the different professional practice situations that are presented throughout the academic course. This will be done with the help of an innovative system of interactive videos made by renowned experts.

*TECH offers you multimedia content to support you in achieving your goals, providing you with dynamism and comfort with the online methodology.*

*This program has been prepared by distinguished specialists in the field of Pharmacology and Health.*



# 02

# Objectives

This university qualification has been specially designed to provide the professionals with the most innovative updates in the field of Infectious Pathology. For this reason, TECH provides different technological tools, guaranteeing the success of the program. Upon completion of this course, the students will have strengthened their knowledge in the development of pharmacological management of diseases such as skin and soft tissue infection and, in addition, the modification of the treatment plan based on the monitoring of the patient's response to initial therapy.







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*The purpose of TECH is to empower your skills and knowledge to achieve your professional goals”*



## General Objectives

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- ◆ Identify management of a wide variety of clinical situations, using available patient-specific information (e.g., age-related, risk factors, relevant acuity indices, prehospital providers)
- ◆ Develop therapeutic and monitoring plans based on medication-related problems, patient- and disease-specific information and laboratory data
- ◆ Summarize strategies for the procurement, preparation, and administration of time-sensitive therapies
- ◆ Evaluate the applicability and limitations of published data and reports to patient care
- ◆ Modify the treatment plan based on monitoring the patient's response to initial therapy





## Specific Objectives

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- ◆ Delve into the rational use of antibiotics, developing a complete analysis of their definitions and the most common infections to be treated with them
- ◆ Develop the pharmacological management of diseases such as skin and soft tissue infections
- ◆ Define the most complex pharmacological treatments for the treatment of Pneumonia, Meningitis, Sepsis, among other infectious diseases present in the hospital context

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*TECH provides different academic innovation tools for the development of therapeutic plans”*



03

# Course Management

TECH offers a first class education for the students who take its programs thanks to the most innovative tools that successfully carry out the process of each of its qualifications. In this way, the graduates will have access to content created by a teaching staff specialized in Pharmacotherapeutic Monitoring of HIV/AIDS patients, Hospital Pharmacy and logistics management. Their great experience and solid bases will allow the graduates to solve doubts and answer questions that may arise during the course of the academic program.





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*TECH has a qualified teaching team specialized in the development and review of pharmaceutical care protocols and optimization of the use of antimicrobials”*



## Management



### Mr. Ramos Rodríguez, Javier

- ◆ Pharmacist at Hospital Corporación Sanitaria Parc Taulí, Sabadell, Spain
- ◆ Coordinating member of the working group of pharmacists specializing in the Emergency Department (RedFaster)
- ◆ Pharmacist specializing in Hospital Pharmacy at Hospital Mútua de Terrassa
- ◆ Pharmacist specializing in Hospital Pharmacy at Consorci Sanitari Integral
- ◆ Resident Pharmacist at Servicio Canario de la Salud (Canary Health Service)
- ◆ Assistant Pharmacist in Pharmacy María Concepción Gutiérrez
- ◆ Assistant Pharmacist in Pharmacy Marina López González
- ◆ Master in Pharmacotherapeutic Follow-up of HIV/AIDS patients by the University of Granada



04

# Structure and Content

This Postgraduate Certificate has been designed and oriented according to the latest research in the pharmaceutical field, establishing a study plan that provides excellent content on Hospital Pharmacology in Infectious Pathology. This syllabus is guided to provide an exclusive state-of-the-art material regarding Pharmacology of vaccines, antivirals and immunomodulatory therapies. All this, by means of multiple multimedia tools that offer dynamism and a greater attractiveness to this university program.





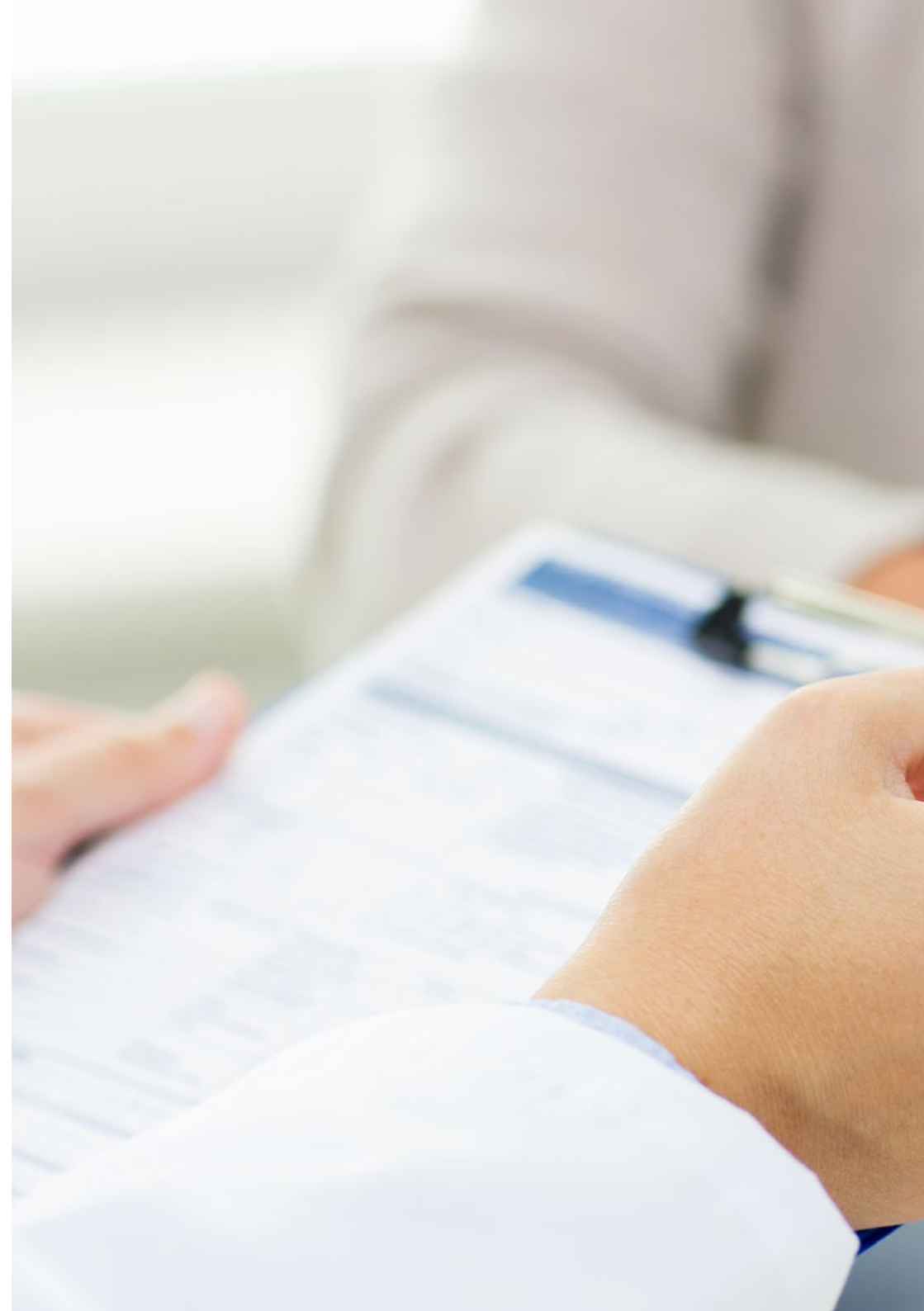
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*A syllabus with advanced content on Hospital Pharmacology in Infectious Pathology”*



## Module 1. Pharmacology of infectious diseases and intoxications

- 1.1. Responsible Antibiotic Use
  - 1.1.1. Classification
  - 1.1.2. Mechanisms of action
  - 1.1.3. Spectrum of activity
  - 1.1.4. Principles of antibiotic pharmacokinetics and pharmacodynamics
- 1.2. Urinary Tract Infections (ITU)
  - 1.2.1. Anatomy and physiology of the urinary tract related to urinary tract infection
  - 1.2.2. Etiology and pathogenesis of cCBI
  - 1.2.3. Classification of Urinary Tract Infection
  - 1.2.4. Pharmacologic treatment of urinary tract infection
- 1.3. Skin and soft tissue infection (STEMI)
  - 1.3.1. Anatomy and physiology of skin and soft tissues related to IPPB
  - 1.3.2. Classification and Types of Skin and Soft Tissue Infections
  - 1.3.3. Evaluation of the patient with IPPB in the hospital setting
  - 1.3.4. Pharmacologic treatment of Skin and Soft Tissue Infections
- 1.4. Pneumonia
  - 1.4.1. Anatomy and physiology of the Respiratory System relationship with Pneumonia
  - 1.4.2. Etiology and pathogenesis of pneumonia
  - 1.4.3. Classification of pneumonia according to etiology and severity
  - 1.4.4. Pharmacological Treatment of Pneumonia
- 1.5. Meningitis
  - 1.5.1. Anatomy and physiology of the central nervous system relationship with Meningitis
  - 1.5.2. Classification of meningitis according to the causative agent and the clinical presentation
  - 1.5.3. Evaluation and classification of the patient with meningitis
  - 1.5.4. Pharmacological Treatment of Meningitis
- 1.6. Sepsis
  - 1.6.1. Anatomy and physiology of the Immune function System relationship with Sepsis
  - 1.6.2. Etiology and pathogenesis of Sepsis
  - 1.6.3. Classification and Stages of Sepsis
  - 1.6.4. Pharmacological Treatment of Sepsis





- 1.7. Acute psychosis and delirium
  - 1.7.1. Etiology and pathogenesis of acute psychosis and delirium
  - 1.7.2. Classification and subtypes of acute psychosis delirium
  - 1.7.3. Assessment and classification of the patient with acute psychosis and delirium in the hospital setting
  - 1.7.4. Pharmacological treatment of acute psychosis and delirium
- 1.8. Acetylsalicylic acid (ASA) intoxication
  - 1.8.1. Toxicokinetics of acetylsalicylic acid in intoxication
  - 1.8.2. Toxic effects and clinical symptoms associated with acetylsalicylic acid poisoning
  - 1.8.3. Clinical diagnosis and methods of detection of AAS poisoning
  - 1.8.4. Treatment and pharmacotherapeutic management of ASA poisoning
- 1.9. Paracetamol poisoning
  - 1.9.1. Toxicokinetics of Paracetamol in poisoning
  - 1.9.2. Toxic effects and clinical symptoms associated with Paracetamol poisoning
  - 1.9.3. Clinical diagnosis and methods of detection of Paracetamol poisoning
  - 1.9.4. Treatment and pharmacotherapeutic management of ASA poisoning
- 1.10. Antidotes
  - 1.10.1. General principles of poisoning management in the hospital setting
  - 1.10.2. Identification and diagnosis of poisonings and intoxications
  - 1.10.3. Pharmacotherapeutic management of poisonings
  - 1.10.4. Use and administration of antidotes in specific poisonings



*A 100% online program that provides flexibility and convenience to delve into skin and soft tissue infection at your convenience”*

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.



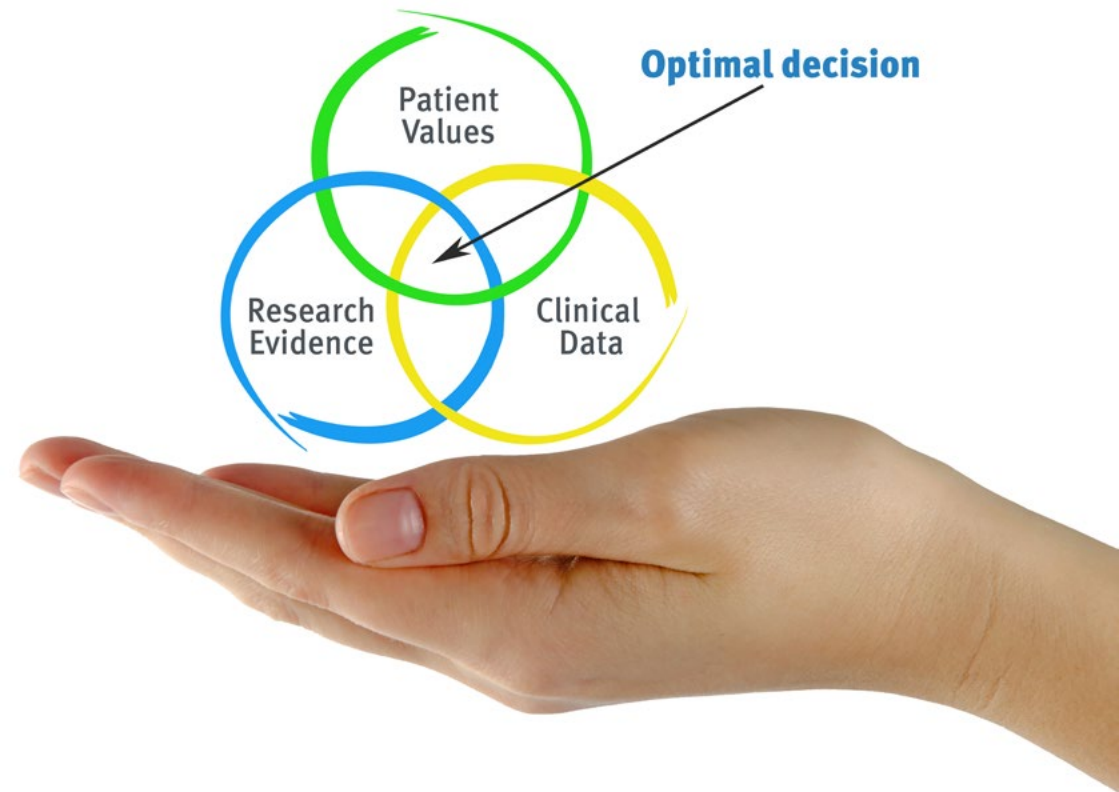


*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## 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 Hospital Pharmacology in Infectious Pathology 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 Hospital Pharmacology in Infectious Pathology** 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 Hospital Pharmacology in Infectious Pathology**

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.

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development language  
virtual classroom



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