

# Postgraduate Certificate

Infectious Diseases Update.  
Public Health, Infection  
Control and Research



## Postgraduate Certificate Infectious Diseases Update. Public Health, Infection Control and Research

- » 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/infectious-diseases-update-public-health-infection-control-research](http://www.techtute.com/us/pharmacy/postgraduate-certificate/infectious-diseases-update-public-health-infection-control-research)

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# 01

# Introduction

Infectious diseases, due to their frequency in emergency department and primary care, account for more than 60 percent of consultations. From the end of the neonatal period to 5 years of age, pneumonia, malaria and diarrhea are the main causes of death. As can be intuited, this leads to a therapeutic approach, which in many cases will be with antibacterial, antiviral or antifungal agents.





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*Improve your knowledge through this program, where you will find the best didactic material with real clinical cases. Learn here about the latest advances in the specialty to be able to provide quality medical care"*

Infectious diseases are constantly undergoing changes. At the epidemiological level, with the emergence or re-emergence of certain diseases that are unknown or have little practice in them (zika, chikungunya, hemorrhagic fevers, among others), others that fell into oblivion or are unknown to younger physicians such as diphtheria, measles, whooping cough or flaccid paralysis associated with poliomyelitis vaccine.

At the therapeutic level, the emergence of resistance (BLEES, MRSA, carbapenem-resistant enterobacteria, etc.), often caused by the unwise and rational use of drugs, creates problems for the clinician when it comes to initial empirical treatment in certain situations.

At the diagnostic level, the increasingly frequent availability of new techniques allows a more rapid etiological diagnosis or by complementary techniques that require clinical diagnostic orientation such as ultrasound, computed tomography or magnetic resonance imaging. Without forgetting the support that the clinician has in laboratory tests that determine acute phase reactants such as procalcitonin or C-reactive protein, which are sometimes given excessive importance, forgetting that we treat patients and not laboratory results.

All this means that, in order to attend these patients with the maximum guarantee, the clinician must maintain a continuous Training, even if he/she is not a specialist, since, as we have mentioned, the percentage of visits or interconsultations related to the infection is very high. If we add to this the increasing amount of information provided by parents, sometimes not always contrasted, professional updating becomes essential to be able to provide adequate information according to the current scientific evidence at all times.

This **Postgraduate Certificate in Infectious Diseases Update. Public Health, Infection Control and Research** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ Development of clinical cases presented by experts in Infectology. 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
- ◆ The latest diagnostic and therapeutic information on how to approach Infectious Diseases. Public Health, Infection Control and Research in Pediatrics
- ◆ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ◆ With a special emphasis on evidence-based medicine and research methodologies in Infectious Diseases. Public Health and Infection Control
- ◆ All of this will be complemented by 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



*Update your knowledge through the Postgraduate Certificate in Infectious Diseases Update. Public Health, Infection Control and Research, in a practical way and adapted to your needs"*

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*This Postgraduate Certificate may be the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in current infectious diseases, public health, infection control and research, you will obtain a university certificate from TECH - Technological University"*

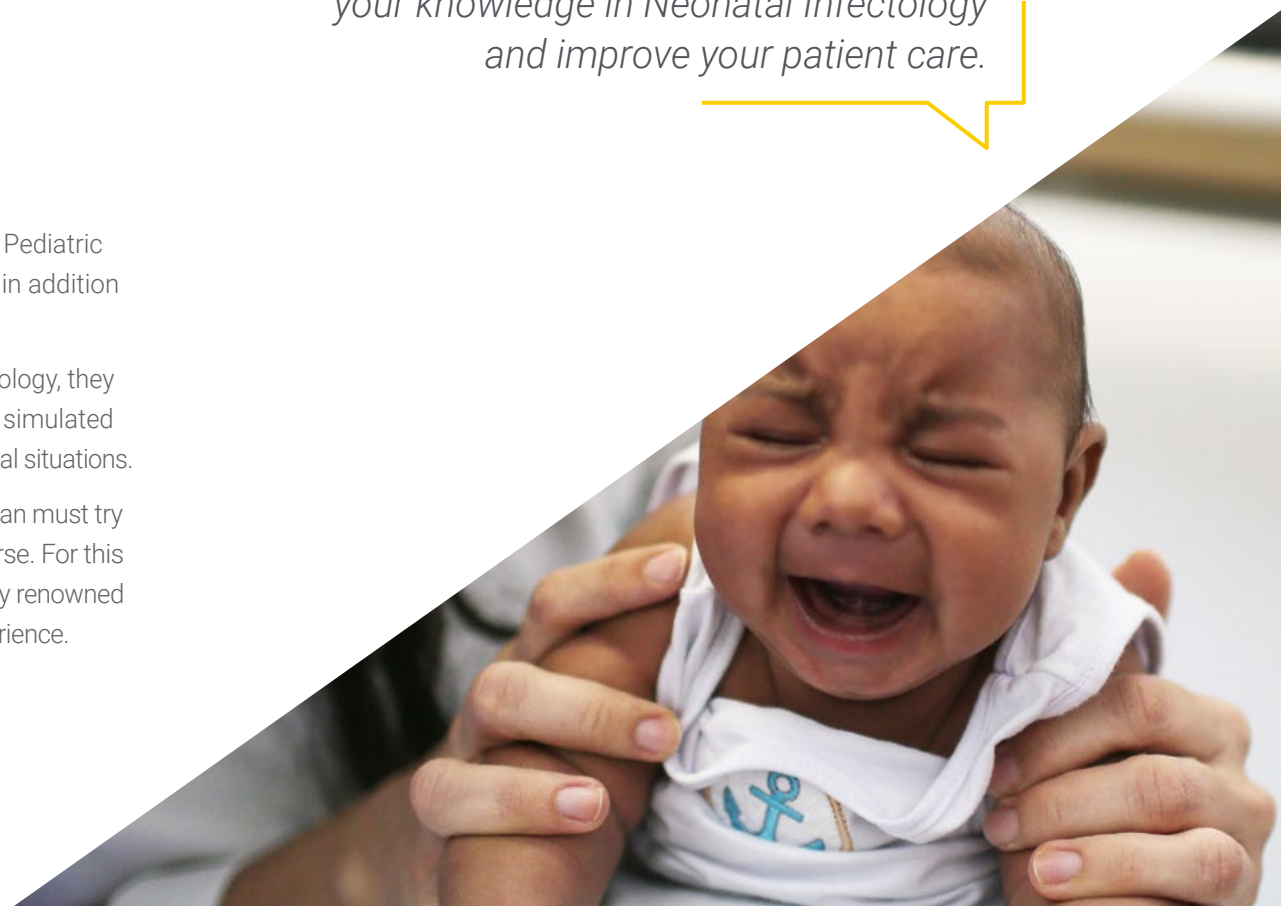
*The Postgraduate Certificate includes real clinical cases and exercises to bring the development of the program closer to the physician's clinical practice.*

*Make the most of the opportunity to update your knowledge in Neonatal Infectology and improve your patient care.*

It includes in its teaching staff, health professionals belonging to the field of Pediatric Infectious Diseases, who bring to this program the experience of their work, in addition to recognized specialists belonging to scientific societies of reference.

Thanks to its multimedia content developed with the latest educational technology, they will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to prepare in real situations.

This program is designed around Problem-Based Learning, whereby the physician 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 Infectology with extensive teaching experience.



02

# Objectives

The program's primary objective is focused on theoretical and practical learning, so that the doctor is able to master Pediatric Infectology in both a practical and rigorous manner.





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*This refresher program will generate a sense of confidence when practicing medicine and will help you grow both personally and professionally”*



## General Objective

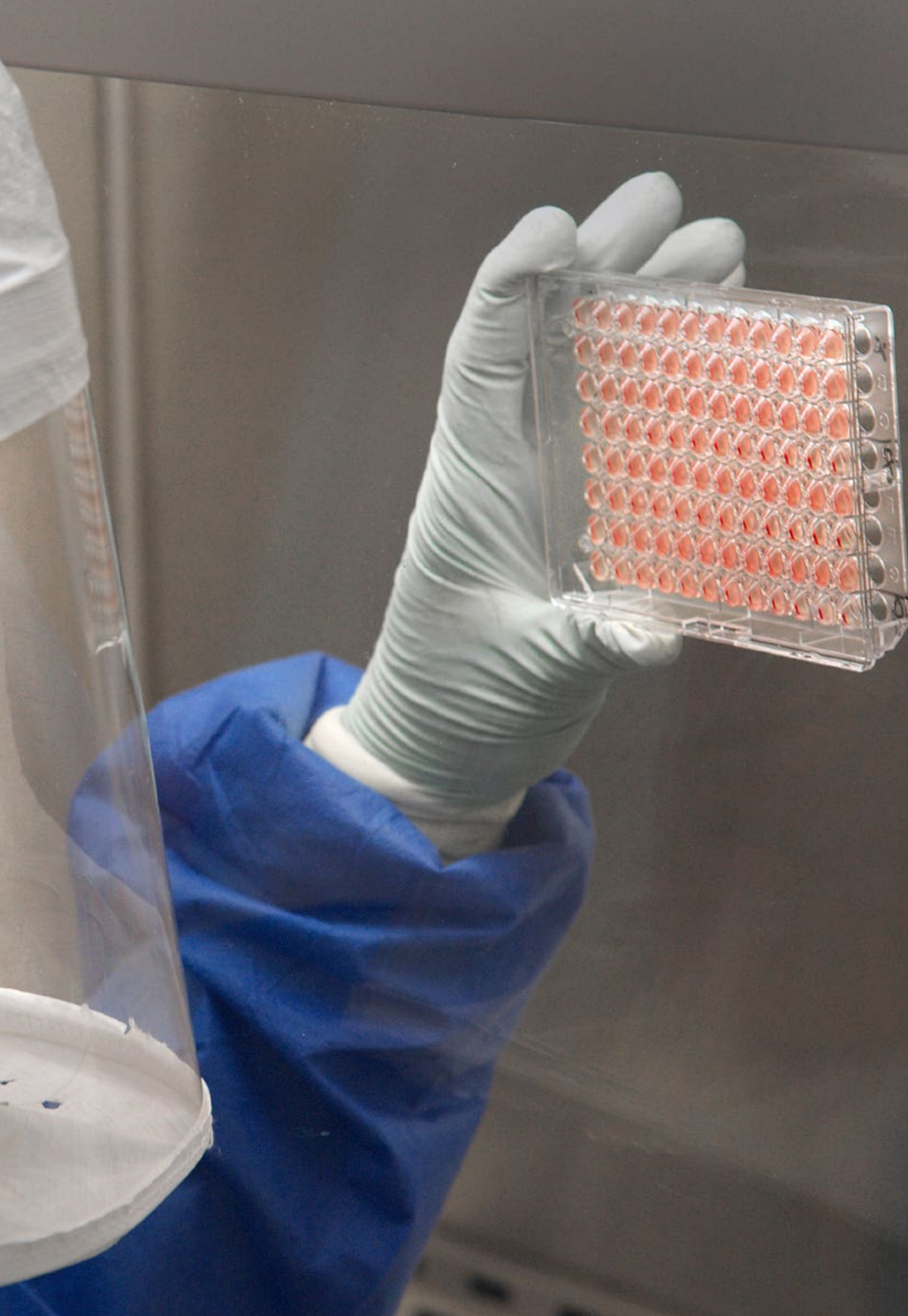
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- Update the knowledge of the pediatrician or the physician who treats children, through the latest advances in the field of Primary Care or Hospital Infectious Diseases, in order to increase the quality of care, the safety of the physician and achieve the best outcome for the patient



*Take the opportunity and take the step to get up to speed on the latest developments in infectious diseases, public health and research"*





## Specific Objectives

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- ◆ Describe the current epidemiology with the changes that have occurred in the last decade
- ◆ Identify the epidemiological situation of bacterial meningitis
- ◆ Explain the epidemiology of tuberculosis in our environment and the resistance to treatment
- ◆ Describe the microbiome, its relationship to health and disease
- ◆ Understand knowledge in such a way as to be able to generate issues or questions that are amenable to research
- ◆ Knowing how to apply knowledge with the ability to solve problem cases in daily practice situations
- ◆ Acquire the ability to communicate their diagnostic and therapeutic conclusions clearly and unambiguously to families
- ◆ Acquire the ability to clearly and concisely convey their knowledge in clinical sessions or discussions with colleagues
- ◆ Acquire the ability to continue training autonomously

03

# Course Management

This program includes highly regarded health professionals in the field of Pediatric Infectious Diseases in its teaching staff, who bring the experience of their work to this training. In addition, renowned specialists, members of prestigious national and international scientific communities, are involved in designing and preparing the program.



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*Learn from leading professionals the latest advances in infectious diseases, public health, infection control and research.”*

## Management



### Dr. Otero Reigada, María del Carmen

- ◆ Former chief clinician in infectious diseases and infants at La Fe de Valencia University Hospital
- ◆ Pediatric Infectious Diseases Specialist
- ◆ Specialist in Clinical Microbiology
- ◆ Currently pediatrician and pediatric infectologist at Quironsalud Hospital of Valencia

## Professors

### Dr. Martínez Morel, Héctor

- ◆ Doctor of Medicine
- ◆ Specialist in Preventive Medicine and Public Health
- ◆ Specialist in the University Hospital and Polytechnic from La Fe)

### Dr. Meyer García, Mari Carmen

- ◆ Specialist in Preventive Medicine and Public Health
- ◆ Specialist in the University Hospital and Polytechnic from La Fe)

### Dr. Mollar Maseres, Juan

- ◆ Head of Section of Preventive Medicine, La Fe University and Polytechnic Hospital ()
- ◆ Doctor of Medicine

### Dr. Monteagudo Montesinos, Emilio

- ◆ Head of the Pediatrics Department, from Fe University and Polytechnic Hospital ()



04

# Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable about the implications of studying in daily Doctor practice in Pediatric Infectious Diseases, aware of the relevance of the current the Training to be able to care for Neonates with infectious pathology with quality teaching through new educational technologies.







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*This Postgraduate Certificate in Infectious Diseases Update. Public Health, Infection Control and Research, contains the most complete and up-to-date scientific program on the market"*

## Module 1. Current Overview in Infectious Diseases

- 1.1. Update on Epidemiological and Public Health Aspects
  - 1.1.1. Current Status of the Epidemiology of Vaccine-Preventable Diseases in the World
- 1.2. Current Morbidity and Mortality of Pediatric Infectious Diseases
  - 1.2.1. Changes in the last 10 years. Death rates
  - 1.2.2. Role of infections today
  - 1.2.3. Socioeconomic level of well-being and infectious diseases
- 1.3. Current Epidemiology of Relevant Infectious Pathologies in our Environment
  - 1.3.1. Current Epidemiology of Bacterial Meningitis
  - 1.3.2. Current epidemiology of nonpoliovirus poliomyelitis and flaccid paralysis. Relationship with live attenuated virus vaccine
  - 1.3.3. Epidemiology of Tuberculosis and its Resistance in High-Income Countries
  - 1.3.4. Epidemiology of Sexually Transmitted Infections in Adolescents
- 1.4. Transmission Mechanisms in Pediatrics
  - 1.4.1. Dynamics and Transmission Mechanisms of the Most Common Agents in Pediatrics Today
  - 1.4.2. Intrafamily transmission
- 1.5. Seasonality of Infection in Pediatrics Outbreak Management
  - 1.5.1. Seasonal Epidemiological Parameters in the Most Common Infections in the Community
  - 1.5.2. Epidemic outbreaks and common sources with punctual, continuous, propagative and mixed exposure
- 1.6. Microbiota, Defensive and Immunomodulatory Function
  - 1.6.1. Composition of the Intestinal Flora, Modification with Age
  - 1.6.2. Defensive and Immunomodulatory Role of the Microbiota
- 1.7. Fever and Inflammatory Response
  - 1.7.1. Update on the Role of Fever in Infection and Antipyretic Therapeutics
  - 1.7.2. Inflammatory Response and Systemic Inflammatory Response Syndrome
- 1.8. Immunocompromise in the pediatric patient
  - 1.8.1. The immunocompromised host. Classification
  - 1.8.2. Defensive alterations due to the Doctor action itself





- 1.9. Diagnostic parameters
  - 1.9.1. Main clinical scales that can be used. Clinical suspicion of immunodeficiency. Diagnostic scale of bronchiolitis, endocarditis, fever without focus, Yios, Westley, Tausny
  - 1.9.2. Rochester criteria, organic dysfunction, Mclsaac, Boyer
  - 1.9.3. Algorithm of action in febrile syndrome in children less than 30 days old
- 1.10. Imaging Tests in Infectious Pathology
  - 1.10.1. Interpretation of Ultrasound Images Applied to Infectious Pathology
  - 1.10.2. Interpretation of TC Applied to Infectious Pathology
  - 1.10.3. MRI Interpretation Applied to Infectious Pathology

## Module 2. Public Health Infectious Disease Control and Research

- 2.1. Emerging Infectious Diseases
- 2.2. Diseases in Which Contact Study is Currently Indicated
- 2.3. Mandatory Disease Reporting and its Practical Significance
- 2.4. Indications of Directly Observed Treatment
- 2.5. Ethics in the Research of New Antibiotics, Antivirals, Antifungals or Vaccines
- 2.6. How to Plan a Study in Infectious Diseases?
- 2.7. Evaluation and Critical Reading of Scientific Publications



*A unique, key, and decisive 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 Infectious Diseases Update. Public Health, Infection Control and Research 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 Infectious Diseases Update. Public Health, Infection Control and Research** contains the most complete and up-to-date scientific 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 Infectious Diseases Update. Public Health, Infection Control and Research**

Official N° of Hours: **225 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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