

# Postgraduate Certificate

Update on Infectious  
Diseases. Public Health,  
Infection Control and  
Research



## Postgraduate Certificate

Update on Infectious  
Diseases. Public  
Health, Infection Control  
and Research

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 9 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-certificate/update-infectious-diseases-public-health-infection-control-research](http://www.techtute.com/us/medicine/postgraduate-certificate/update-infectious-diseases-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 perform a quality medical practice"*

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

At the therapeutic level, the emergence of resistance (BLEES, MRSA, carbapenem-resistant enterobacteria, etc.), often caused by our 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 they are 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 Update on Infectious Diseases. Public Health, Infection Control and Research** contains the most complete and up-to-date scientific program on the market. The most important features of the course university are:

- Clinical cases presented by experts in infectology. The graphic, schematic, and eminently practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice
- Diagnostic and therapeutic novelties on the performance in Infectious Diseases. Public Health, Infection Control and Research in Pediatrics
- Algorithm-based interactive learning system for decision-making in the presented clinical situations
- 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 Update on Infectious Diseases. Public Health, Infection Control and Research, in a practical way and adapted to your needs"*

“

*This Postgraduate Certificate may be the best investment you can make in the selection of an up-to-date program for two reasons: in addition to updating your knowledge in Update on Infectious Diseases. Public Health, Infection Control and Research you will obtain a certificate issued by TECH Global University"*

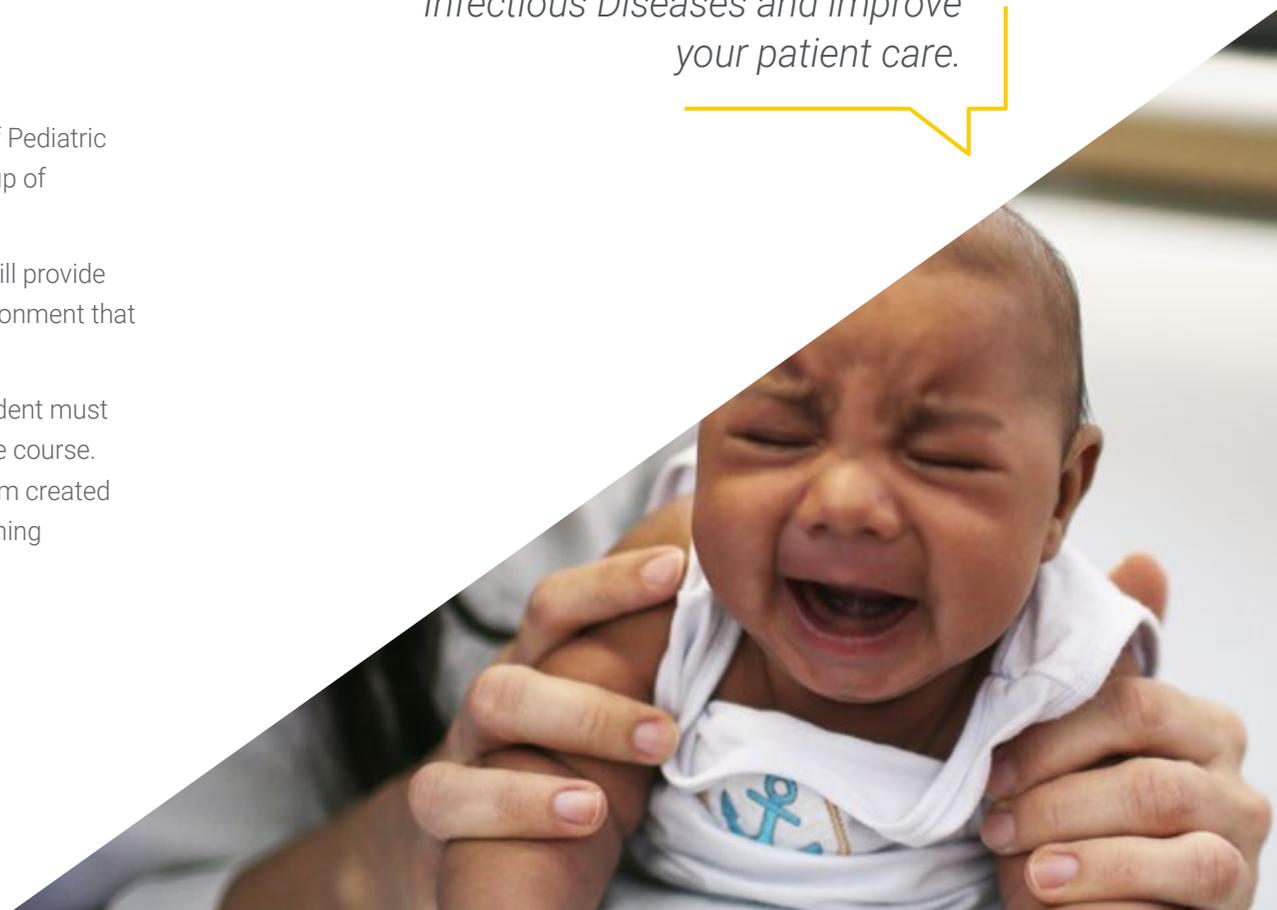
Forming part of the teaching staff is a group of professionals in the world of Pediatric Infectology, who bring to this course their work experience, as well as a group of renowned specialists, recognised by esteemed scientific communities.

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 training program to train in real situations.

This program is designed around Problem Based Learning, whereby the student 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 recognized experts in the field of infectious diseases and with great teaching experience.

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

*Take the opportunity to update your knowledge in Update on Infectious Diseases and improve your patient care.*



02

# Objectives

The main objective of the program is the development of theoretical and practical learning, so that the physician can master pediatric infectology in a practical and rigorous way.





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*This refresher program will generate a sense of security in the performance of the physician's praxis, which will help you grow personally and professionally"*



## General Objective

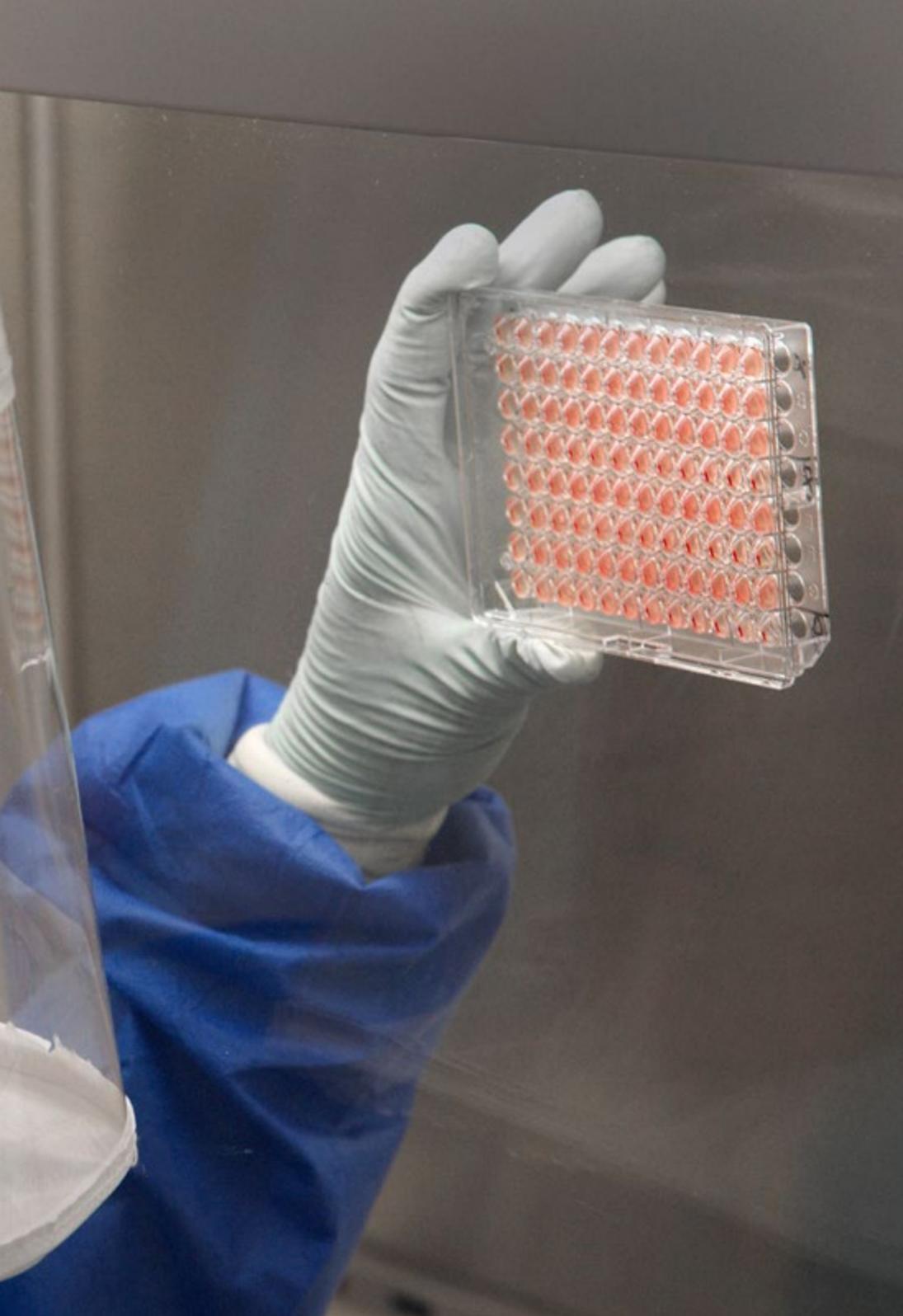
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- Update the knowledge of the pediatrician or the physician who treats children, through the latest advances in the field of Primary Care or Hospital Infectious Diseases, in order to increase the quality of care, the safety of the physician and achieve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



*Take advantage of the opportunity and take the step to get up to date on the latest 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 the knowledge in such a way that they are able to generate issues or questions that are susceptible to investigation
- ◆ Know 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 transmit their knowledge in clinical sessions or discussions with colleagues
- ◆ Acquire the ability to continue training autonomously

03

# Course Management

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



“

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

## Management



### Dr. Otero Reigada, María 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 Area Physician (University and Polytechnic Hospital La Fe)

### Dr. Meyer García, Mari Carmen

- ♦ Specialist in Preventive Medicine and Public Health
- ♦ Specialist Area Physician (University and Polytechnic Hospital La Fe)

### Dr. Mollar Maseres, Juan

- ♦ Head of Section of Preventive Medicine (University and Polytechnic Hospital La Fe)
- ♦ Doctor of Medicin

### Dr. Monteagudo Montesinos, Emilio

- ♦ Head of Pediatric Services (University and Polytechnic Hospital La Fe)



04

# Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable about the implications of training in daily medical practice in Pediatric Infectology, aware of the current relevance of training to training able to act before the pediatric neonates with Infectious pathology to quality teaching through new educational technologies.





“

*This Postgraduate Certificate in Update on Infectious Diseases. 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. Mortality Figures.
  - 1.2.2. Current Role of Infections.
  - 1.2.3. Level of Socioeconomic 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 Poliomyelitis and Flaccid Paralysis Due to Non-poliovirus. 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. Explain 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. Considerations in a Pediatric Patient.
  - 1.8.1. The Immunocompromised Host. Classification.
  - 1.8.2. Defensive Alterations Due to the Medical Performance Itself.





- 1.9. Diagnostic Parameters.
  - 1.9.1. Main Clinical Scales that Can Be Used. Clinical Suspicion of Immunodeficiency. Diagnostic Scale for Bronchiolitis, Endocarditis, Fever Without focus, Yios, Westley, Tausny.
  - 1.9.2. Rochester Criteria, Organic Dysfunction Criteria, McIsaac, Boyer.
  - 1.9.3. Algorithm of Action for Fever in Children Under 30 Days of Age.
- 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. Interpretation of RNM 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  
Training experience to boost your  
professional development”*

05

# Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used 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 Re-learning, 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 would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you 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 potential 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 professional medical 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 grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on 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.



## Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

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.



*The physician 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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology we have trained more than 250,000 physicians 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.

*Re-learning 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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by our learning system is 8.01, according to the highest international standards.



In this program you will have access to the best educational material, prepared with you 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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### Interactive Summaries

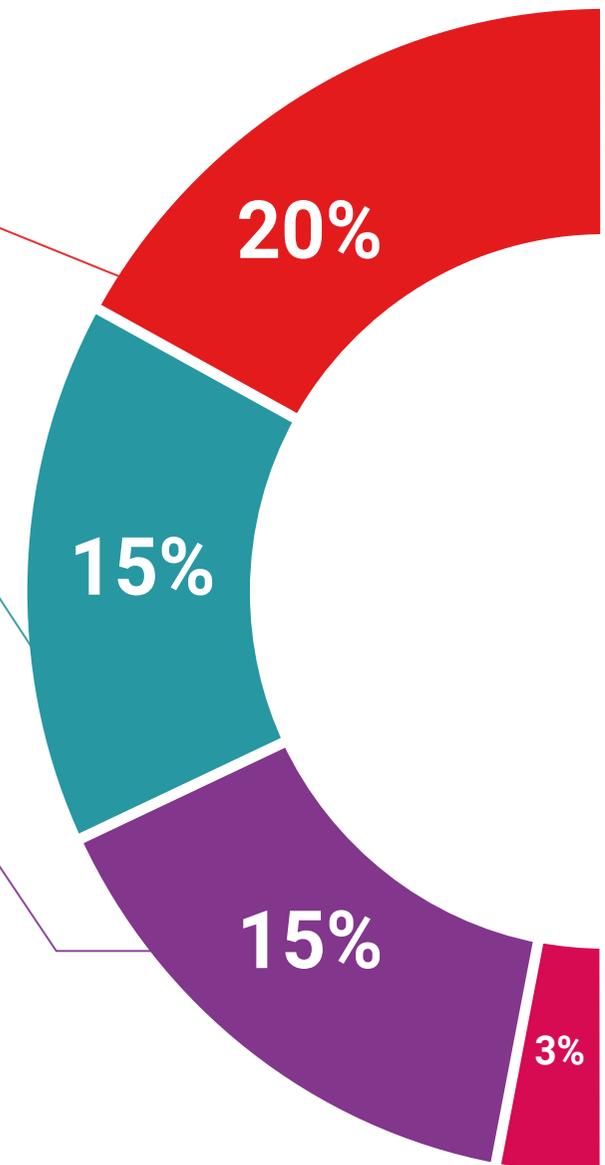
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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



#### Additional Reading

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.





#### 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 & Re-testing

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your 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 our future difficult decisions.



#### Quick Action Guides

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.



06

# Certificate

This Postgraduate Certificate in Update on Infectious Diseases. Public Health, Infection Control and Research guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Global University.



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

This program will allow you to obtain your **Postgraduate Certificate in Update on Infectious Diseases. Public Health, Infection Control and Research** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra (*official bulletin*). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

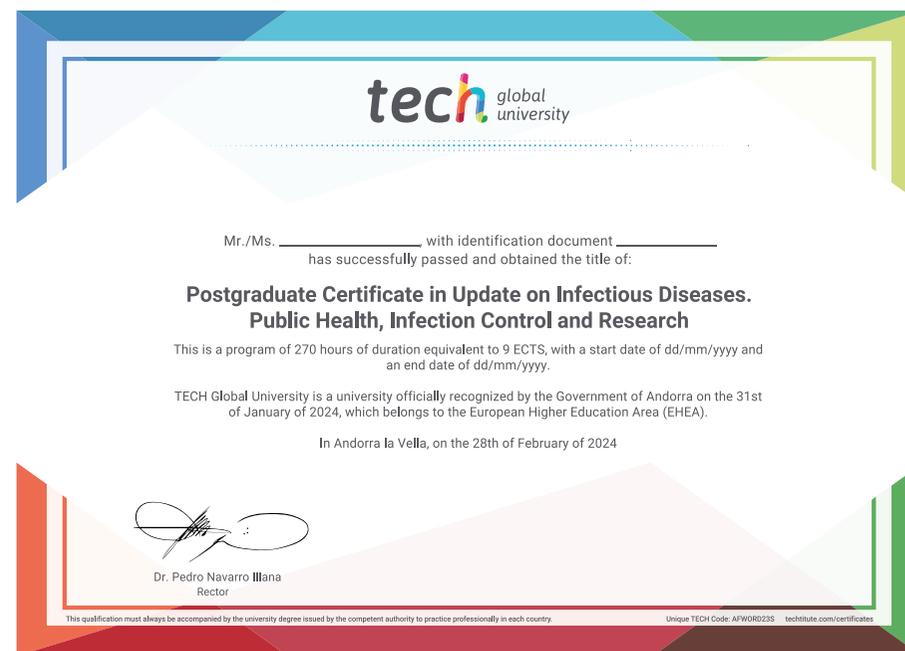
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Update on Infectious Diseases. Public Health, Infection Control and Research**

Modality: **online**

Duration: **6 weeks**

Accreditation: **9 ECTS**



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University 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  
online training  
development languages  
virtual classroom



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