



## Postgraduate Diploma

## Update in Infectious Diseases

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 8h/week

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/in/medicine/postgraduate-diploma/postgraduate-diploma-update-infectious-diseases

## Index

> 06 Certificate

> > p. 30





## tech 06 | Introduction

The field of Infectious Diseases has always been important in the study of infectious diseases, their control, prevention, treatment, etc. However, in the current era, it was not until the advent of COVID-19 that society began to understand that professionals in this field play a vital role. Thanks to the tireless work of thousands of specialists around the world, it was possible to launch a series of vaccines on the market, without which it would not have been possible to contain the advance of the virus.

This was thanks to the exhaustive knowledge of the pathology, as has occurred with AIDS or tuberculosis, diseases that, despite not being eradicated, have considerably reduced the number of cases thanks to the application of medical strategies resulting from years of research. This is why TECH has considered it necessary to develop a program that allows graduates to keep up to date with all these new developments. This is how the Postgraduate Diploma in Update in Infectious Diseases was created, a complete and dynamic program with which the physician can delve into the advances in clinical research in infectious diseases, as well as learn more about the use of ICT for registration, monitoring and surveillance, and which places special emphasis on the causes and consequences of the Coronavirus.

For this, the specialist will have 450 hours of the best theoretical, practical and additional material, designed and selected by experts in the sector, who will be part of the faculty of this program. In addition, so that you can perfectly balance your update with the activity of your practice, the program is presented in a convenient 100% online format, without face-to-face classes or restricted schedules, and that will allow you to contact whenever you want and can without limits and from any device with an internet connection.

This **Postgraduate Diploma in Update in Infectious Diseases** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Clinical cases presented by experts in Infectious Diseases
- 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
- 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



You will be able to connect to the Virtual Classroom whenever you want and can and from any device with an internet connection, either mobile, tablet or computer"



If you are looking for a detailed understanding of the latest developments related to international sanitary control and the diseases subject to its standards, this is the perfect academic opportunity for you"

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.

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.

The perfect program to delve into the latest developments in epidemiology in the study of infectious diseases in a 100% online way.

An exhaustive and dynamic medical update without restricted schedules or face-to-face classes. This is TECH's academic offer.







## tech 10 | Objectives



## **General Objectives**

- Provide the graduates with the most innovative academic tools that allow the specialist to update their knowledge easily and comfortably
- Provide the graduate with the latest information related to Infectious Diseases and strategies for prevention, control, monitoring, diagnosis and treatment
- To bring the specialist up to date on the scientific advances that have been made in this field in under 6 weeks



Would you like to know in detail the latest developments related to the use of new technologies for your clinical, teaching and research work? Then enroll in this Postgraduate Diploma and don't think twice"







### **Specific Objectives**

#### Module 1. Clinical Research in Infectious Diseases

- Provide students with advanced, in-depth, updated, and multidisciplinary information that allows them to comprehensively approach the process of healthinfectious diseases
- Provide education and practical theoretical improvement that will enable a reliable clinical diagnosis supported by the efficient use of diagnostic methods to indicate an effective integral treatment
- Develop skills to implement prophylactic plans for the prevention of these diseases

#### Module 2. ICT and Medical Records in Infectious Diseases

- Define the concepts of clinical decisions electronic support applied to infectious pathology
- Identify new information systems and their usefulness in the patient's medical record

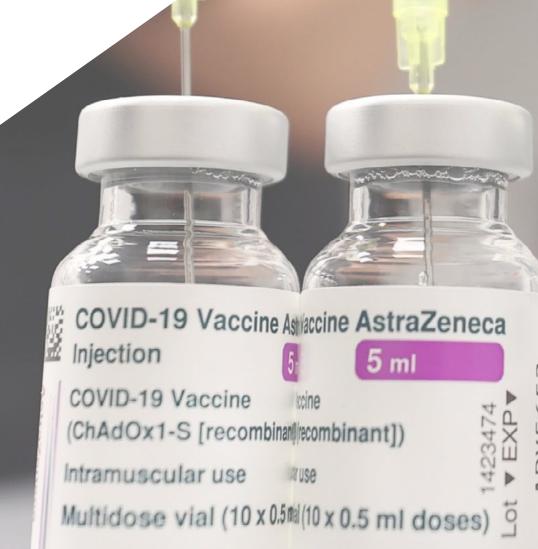
#### Module 3. Coronavirus Infections

- Know the microbiological characteristics of coronaviruses
- Know how to assess the morbidity and mortality of coronavirus infections
- Identify the main risk groups and mechanisms of coronaviruses
- \* Be able to perform the necessary tests for diagnosing Coronavirus
- Know how to apply the necessary preventive measures, as well as the most accurate treatments according to the type of patient

03

Course Management

The support of a teaching team experienced in the field on which the program will be based is essential to ensure that the graduates will be able to get even more out of their academic experience. For this reason, TECH has considered necessary to include in this Postgraduate Diploma, a specialized faculty in Infectious Diseases, a group of professionals with a wide and extensive career in research, medical practice and teaching. It is, therefore, a unique opportunity to be updated by practicing physicians who know in detail the latest developments in Infectious Diseases and who have even participated in its advancement.





## tech 14 | Course Management

#### Management



#### Dr. Díaz Pollán, Beatriz

- Faculty Specialist La Paz University Hospita
- Faculty Specialist at Hospital Clínico San Carlos
- Resident Physician in San Carlos Clinical Hospital
- Master's Degree in Clinical Medicine from the Rey Juan Carlos University
- Degree in Medicine and Surgery from the Autonomous University of Madrid
- Master's Degree in Infectious Diseases and Antimicrobial Treatment from CEU Cardenal Herrera University
- Postgraduate Diploma in Community and Nosocomial Infections from CEU Cardenal Herrera University
- Postgraduate Diploma in Chronic Infectious Diseases and Imported Infections from CEU Cardenal Herrera University
- Postgraduate Diploma in Microbiological Diagnosis, Antimicrobial Treatment and Research in Infectious Pathology from CEU Cardenal Herrera University

#### **Professors**

#### Dr. Ramos, Juan Carlos

- Doctor at La Paz University Hospital. Madrid
- Official Doctoral Programme in Medicine. University of Alcalá
- Degree in Medicine and Surgery. Complutense University of Madrid
- Master's Degree in Infectious Diseases in Intensive Care. University-Company Foundation Valencia
- Author of Several Scientific Publications

#### Dr. Arribas López, José Ramón

- Head of the Infectious Diseases and Clinical Microbiology Unit. La Paz University Hospital
- Coordinator of the High-Level Isolation Unit. La Paz University Hospital Carlos III
- Member Interministerial Committee for the management of the Ebola crisis
- Head of the AIDS and Infectious Diseases research group at IdiPAZ
- Doctor of Medicine. Autonomous University of Madrid
- Degree in Medicine and Surgery. Complutense University of Madrid

#### Dr. Rico, Alicia

- Specialist in the Microbiology and Parasitology Department at La Paz University Hospital
- Assistant and co-founder of the Infectious Diseases and Clinical Microbiology Unit at La Paz University Hospital
- Team Member of PROA (Programs of reinforcement, Orientation and Support)
- Teaching Collaborator of the Department of Medicine at UAM
- Member of the Infection and Policy Committee of La Paz University Hospital
- Member of SEIMC (the Spanish Society of Infectious Diseases and Clinical Microbiology)
- Participation in several research projects
- Degree in Medicine from the Complutense University of Madrid
- \* Doctorate Courses at the Complutense University of Madrid

#### Dr. Loeches Yagüe, María Belén

- \* Specialist in the area of Infectious Diseases at La Paz General University Hospital
- Professor of Infectious Diseases at the Infanta Sofía University Hospital in Madrid. European University of Madrid
- \* Doctor of Medicine. Autonomous University of Madrid
- Degree in Medicine. Complutense University of Madrid
- Master's Degree in Theoretical and Practical Learning in Infectious Diseases. Complutense University of Madrid
- Specialised Training in Microbiology and Infectious Diseases. Gregorio Marañón General University Hospital

#### Dr. Mora Rillo, Marta

- Specialist in the area of Infectious Diseases at La Paz University
- Clinical Teaching Collaborator in the Department of Medicine. Autonomous University of Madrid
- Doctor of Medicine. Autonomous University of Madrid
- Degree in Medicine and Surgery. University of Zaragoza
- Master's Degree in Infectious Diseases in Intensive Care. University of Valencia
- Online Masters in Infectious Diseases and Antimicrobial Treatment CEU Cardenal Herrera University
- Master's Degree in Tropical Medicine and International Health. Autonomous University of Madrid
- Expert in Emerging and High-Risk Virus Pathology. Autonomous University of Madrid
- \* Expert in Tropical Medicine. Autonomous University of Madrid

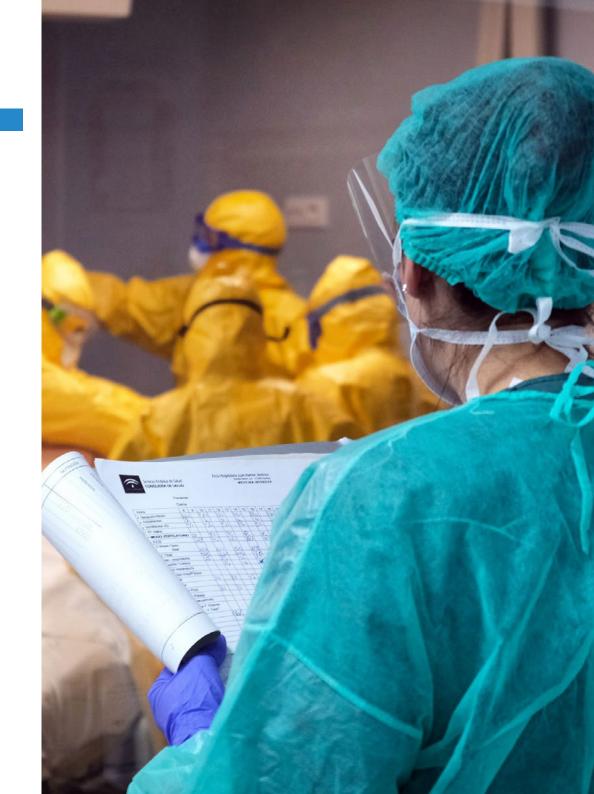




## tech 18 | Structure and Content

#### Module 1. Clinical Research in Infectious Diseases

- 1.1. The Clinical Method in the Diagnostic Process of Infectious Diseases
  - 1.1.1. Fundamental Concepts of the Clinical Method: Stages, Principles
  - 1.1.2. The Clinical Method and its Usefulness in Infectology
  - 1.1.3. Most Common Errors in the Application of the Clinical Method
- 1.2. Epidemiology in the Study of Infectious Diseases
  - 1.2.1. Epidemiology as a Science
  - 1.2.2. The Epidemiological Method
  - 1.2.3. Epidemiology Tools Applies in the Study of Infectious Diseases
- 1.3. Clinic Epidemiology and Scientific Evidence-Based Medicine
  - 1.3.1. Scientific Evidence and the Clinical Experience
  - 1.3.2. The Importance of Evidence-Based Medicine in Diagnosis and Treatment
  - 1.3.3. Clinical Epidemiology as a Powerful Weapon of Medical Thinking
- 1.4. Behavior of Infectious Diseases in the Population
  - 1.4.1. Endemic
  - 1.4.2. Epidemic
  - 1.4.3. Pandemic
- 1.5. Confronting Epidemic Outbreaks
  - 1.5.1. Diagnosis of Epidemic Outbreaks
  - 1.5.2. Measures for the Control of Epidemic Outbreaks
- 1.6. Epidemiological Monitoring
  - 1.6.1. Types of Epidemiological Monitoring
  - 1.6.2. Designs of an Epidemiological Monitoring Systems
  - 1.6.3. Usefulness and Importance of Epidemiological Monitoring
- 1.7. International Sanitary Control
  - 1.7.1. Components of International Sanitary Control
  - 1.7.2. Diseases Subject to International Sanitary Control
  - 1.7.3. Importance of International Sanitary Control



## Structure and Content | 19 tech

- 1.8. Mandatory Reporting Systems for Infectious Diseases
  - 1.8.1. Characteristics of Diseases Subject to Mandatory Reporting
  - 1.8.2. Role of the Doctor in Mandatory Reporting Systems for Infectious Diseases
- 1.9. Vaccines
  - 1.9.1. Immunological Basis of Vaccination
  - 1.9.2. Development and Production of Vaccines
  - 1.9.3. Diseases Preventable with Vaccines
  - 1.9.4. Experiences and Results of the Vaccine System in Cuba
- 1.10. Research Methodology in the Field of Health
  - 1.10.1. The importance of Public Health in Research Methodology as a Science
  - 1.10.2. Scientific Thought in Healthcare
  - 1.10.3. The Scientific Method
  - 1.10.4. Stages of Scientific Research
- 1.11. Information Management and the Use of New Information and Communication Technologies (ICT)
  - 1.11.1. The Use of New ICT in the Management of Knowledge for Healthcare Professionals in the Professional Clinical, Teacher and Research Work
  - 1.11.2. Information Literacy
- 1.12. Design of Research Studies for Infectious Diseases
  - 1.12.1. Types of Studies in Healthcare and Medical Sciences
  - 1.12.2. The Design of Research Applied to Infectious Diseases
- 1.13. Descriptive and Inferential Statistics
  - 1.13.1. Summary Measures for the Different Variables in Scientific Research
  - 1.13.2. Central Tendency Measures: Mean, Mode and Median
  - 1.13.3. Dispersion Measures: Variants and Standard Deviation
  - 1.13.4. Statistical Estimation
  - 1.13.5. Population and Sample
  - 1.13.6. Tools for Inferential Statistics

- 1.14. Design and Use of Databases
  - 1.14.1. Types of Databases
  - 1.14.2. Programs and Statistical Packages for the Management of Databases
- 1.15. Protocol of Scientific Research
  - 1.15.1. Protocol Components of Scientific Research
  - 1.15.2. Usefulness of Protocol of Scientific Research
- 1.16. Clinical Trials and Meta Analysis
  - 1.16.1. Types of Clinical Trials
  - 1.16.2. The Role of a Clinical Trial in Healthcare Research
  - 1.16.3. Meta Analysis: Conceptual Definitions and Their Methodological Design
  - 1.16.4. Application of Meta-Analyses and Their Role in the Medical Sciences
- 1.17. Critical Reading of Research Results
  - 1.17.1. Medical Journals, Their Role in the Dissemination of Scientific Information
  - 1.17.2. Medical Journals of High-Impact on a Global Level in the Field of Infectology
  - 1.17.3. Methodological Tools for Critical Reading of Scientific Literature
- 1.18. Publication of Scientific Research Results
  - 1.18.1. The Scientific Article
  - 1.18.2. Types of Scientific Articles
  - 1.18.3. Methodology Requirements for the Publication of Scientific Research Results
  - 1.18.4. The Process of Scientific Publications in Medical Journals

#### Module 2. ICT and Medical Records in Infectious Diseases

- 2.1. Clinical Decision Support Systems
- 2.2. Information Systems and Sales Programming
- 2.3. Record Keeping and Surveillance System

## tech 20 | Structure and Content

#### Module 3. Coronavirus Infections

- 3.1. Discovery and Evolution of Coronaviruses
  - 3.1.1. Discovery of Coronaviruses
  - 3.1.2. Global Trends in Coronavirus Infections
- 3.2. Main Microbiological Characteristics and Members of the Coronavirus Family
  - 3.2.1. General Microbiological Characteristics of Coronaviruses
  - 3.2.2. Viral Genome
  - 3.2.3. Principal Virulence Factors
- 3.3. Epidemiological Changes in Coronavirus Infections from its Discovery to the Present
  - 3.3.1. Morbidity and Mortality of Coronavirus Infections from their Emergence to the Present
- 3.4. The Immune System and Coronavirus Infections
  - 3.4.1. Immunological Mechanisms Involved in the Immune Response to Coronaviruses
  - 3.4.2. Cytokine Storm in Coronavirus Infections and Immunopathology
  - 3.4.3. Modulation of the Immune System in Coronavirus Infections
- 3.5. Pathogenesis and Pathophysiology of Coronavirus Infections
  - 3.5.1. Pathophysiological and Pathogenic Alterations in Coronavirus Infections
  - 3.5.2. Clinical Implications of the Main Pathophysiological Alterations
- 3.6. Risk Groups and Transmission Mechanisms of Coronaviruses
  - 3.6.1. Main Sociodemographic and Epidemiological Characteristics of Risk Groups Affected by Coronaviru
  - 3.6.2. Coronavirus Mechanisms of Transmission
- 3.7. Natural History of Coronavirus Infections
  - 3.7.1. Stages of Coronavirus Infection





## Structure and Content | 21 tech

- 3.8. Latest Information on Microbiological Diagnosis of Coronavirus Infections
  - 3.8.1. Sample Collection and Shipment
  - 3.8.2. PCR and Sequencing
  - 3.8.3. Serology Testing
  - 3.8.4. Virus Isolation
- 3.9. Current Biosafety Measures in Microbiology Laboratories for Coronavirus Sample Handling
  - 3.9.1. Biosafety Measures for Coronavirus Sample Handling
- 3.10. Up-to-Date Management of Coronavirus Infections
  - 3.10.1. Prevention Measures
  - 3.10.2. Symptomatic Treatment
  - 3.10.3. Antiviral and Antimicrobial Treatment in Coronavirus Infections
  - 3.10.4. Treatment of Severe Clinical Forms
- 3.11. Future Challenges in the Prevention, Diagnosis, and Treatment of Coronavirus
  - 3.11.1. Global Challenges for the Development of Prevention, Diagnostic, and Treatment Strategies for Coronavirus Infections



Access the world's largest online medical school and become part of an international community of specialists who will keep you up to date"





## tech 24 | Methodology

#### 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. Gérvas, 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.



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:

- 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.



## Methodology | 27 tech

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.

## tech 28 | Methodology

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.









## tech 32 | Certificate

This **Postgraduate Diploma in Update in Infectious Diseases** 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 Diploma** issued by **TECH Technological University** via tracked delivery\*.

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

Title: Postgraduate Diploma in Update in Infectious Diseases
Official N° of hours: **450 h.** 



Mr./Ms. \_\_\_\_\_, with identification number \_\_\_\_ For having passed and accredited the following program

#### **POSTGRADUATE DIPLOMA**

in

#### Update in Infectious Diseases

This is a qualification awarded by this University, equivalent to 450 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.

ue TECH Code: AFWORD23S techtitute.com/certif

<sup>\*</sup>Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

health confidence people

ducation information tutors
guarantee accreditation teaching
institutions technology learning
community commitment



# Postgraduate Diploma Update in Infectious Diseases

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

