



Postgraduate Diploma

Infections Present in Diseases

Course Modality: Online

Duration: 6 months.

Certificate: TECH Technological University

Official No of hours: 750 h.

 $We b site: {\color{blue}www.techtitute.com/pharmacy/postgraduate-diploma/postgraduate-diploma-infections-present-diseases}$

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tech 06 | Introduction

In order to meet the healthcare needs of the 21st century, it is important that pharmaceutical professionals keep up to date with advances in this area of care for the sick. In this case, the cases of infections linked to different diseases, which affect millions of people around the world every year, stand out.

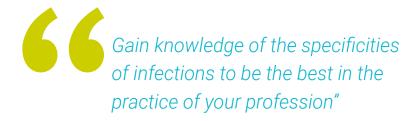
Infection control has become a great difficulty, especially due to the problems derived from antimicrobial resistance, which has caused pathologies that used to be easily cured to become more complicated, with the consequences that this entails, both for the patients and for the economy, as treatment costs have become longer.

In addition, several new infectious diseases with high morbidity have emerged in recent years, requiring a significant level of updating. For this reason, pharmacists should continue their training with educational programs such as the one TECH presents on this occasion, which delves into the microbiology of infectious diseases, taking into account the characteristics that allow the development of infections in different continents.

Likewise, the Postgraduate Diploma students will be able to deepen their knowledge of the relationship between the development of certain infections in cancer patients or patients with chronic diseases, as well as multi resistant microorganisms. Also noteworthy is the formation of rare infections which, although frequent in specific countries, mainly in developing areas, can reach any part of the world, favored by tourism.

This **Postgraduate Diploma in Infections Present in Diseases** contains the most complete and up to date educational program on the market. Its most notable features are:

- Practical 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 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





Continue your academic practice with a fully up to date program based on the latest scientific developments"

The program's teaching staff includes professionals from sector who contribute their work experience to this training 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 training programmed to train in real situations.

The design of this program focuses on Problem Based Learning, which means the student must try to solve the different real life situations which arise throughout the academic program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

Expand your knowledge with this Postgraduate Diploma in Infections Present in Diseases and excel in your profession.

This is the best teaching program you will find in the market, thanks to its methodology and way of teaching the lessons, in addition to its scientific knowledge and 100% online.







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General Objectives

- Explore key aspects of Clinical Infectious Diseases and Advanced Antibiotic Therapeutics
- Manage the prevention, diagnosis and treatment of infectious diseases
- Explore a multidisciplinary and integrative approach to facilitate the control of these pathologies
- Acquire skills in the area of Clinical Infectious Diseases and Advanced Antibiotic Therapeutics
- Be able to apply the latest technological innovations to establish an optimal management in diagnostics



Stand out in your daily pharmacy practice by applying the latest techniques in the treatment of infections"





Module 1. Epidemiology and microbiology of infectious diseases

- Understand the epidemiological, economic, social and political conditions of the countries with major infectious diseases
- Identify the different taxonomies of infectious agents, as well as the properties of microorganisms
- Explore chemical and physical Agents from microorganisms
- Become familiar with the indications and interpretations of a microbiological study, understanding all the technical aspects of it

Module 2. Cancer and Immunosuppression

- Identify the general structure of the immune system
- Establish common immune system responses to viral and bacterial infections
- Explain the complex interrelationships between infections and different types of immunosuppression

Module 3. Chronic Non-Communicable Diseases and Infections

- Study the current pathophysiological elements between non-transmissible chronic diseases and infections
- Understand neurological, endocrine and immune interrelationships in the face of stress and infectious agents
- Identify digestive diseases associated with infectious microorganisms and the function of this system in the body
- Explore the infectious theory of rheumatoid diseases

Module 4. Multi-Resistance and Vaccines

- Identify the acquired genetic mechanisms that lead to antimicrobial resistance
- Explore the different infections that have developed resistance to antiviral drugs
- Know the general aspects of vaccination, as well as its immunological basis, its
 production process and the risk for people
- Establish the correct method for the use of vaccines

Module 5. Rare Infectious Diseases and Other Challenges in Infectiology

- Know the generalities of the most common infectious diseases in the world
- Identify the etiology, clinical picture and diagnosis of the most common diseases in the world
- Develop the skills necessary to identify new emerging infectious diseases as well as the development of new antibiotics





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Management



Dr. Díaz Pollán, Beatriz

- Faculty Specialist Déu Hospital La Paz University Hospital. Since
- Official Doctoral Programme in Clinical Medicine Clinical symptoms, University Rey Juan Carlos
- Degree in Medicine and Surgery, Autonomous University of Madrid
- · Master's Degree in Infectious Diseases and Antimicrobial Treatment from CEU Cardenal Herrera University
- · Postgraduate Certificate in Community and Nosocomial Infections from CEU Cardenal Herrera University
- Postgraduate Certificate in Chronic Infectious Diseases and Imported Infections from CEU Cardenal Herrera University
- Postgraduate Certificate in Microbiological Diagnosis, Antimicrobial Treatment and Research in Infectious Pathology from CEU Cardenal Herrera University
- Faculty Specialist Déu Hospital San Carlos Clinical Hospital
- Resident doctor, San Carlos Clinical Hospital

Professors

Dr. Rico, Alicia

- Specialist in the Microbiology and Parasitology Department at La Paz University Hospital, Madrid
- Degree in Medicine from the Complutense University of Madrid.
- Doctorate Courses at the Complutense University of Madrid
- Assistant and co-founder of the Infectious Diseases and Clinical Microbiology Unit, La Paz University Hospital, Madrid
- Clinical teaching collaborator Department of Medicine of the UAM

Dr. Ramos, Juan Carlos

- Doctor at La Paz University Hospital, Madrid
- Official Doctoral Programme in Clinical Medicine. University of Alcalá
- Degree in Medicine and Surgery from the Complutense, University of Madrid
- Master's Degree in Infectious Diseases in Intensive Care, Fundación Universidad-Empresa Valencia
- Author of several community publications

Dr. Loeches Yagüe, María Belén

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

Dr. Arribas López, José Ramón

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

Dr. Mora Rillo, Marta

- Specialist in the area of Infectious Diseases at La Paz University Hospital
- Doctor in Medicine, Autonomous University, Madrid
- Degree in Medicine and Surgery, University of Zaragoza
- Master's Degree in Infectious Diseases in Intensive Care, University of Valencia
- Online Master's Degree in Infectious Diseases and Antimicrobial Treatment from 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





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Module 1. Epidemiology and microbiology of infectious diseases

- 1.1. Epidemiological, Economic, Social and Political Conditions in Continents Which Favor the Development of Infectious Diseases
 - 1.1.1. Africa:
 - 1.1.2. America:
 - 1.1.3. Europe and Asia
- 1.2. New and Emerging Diseases By Continent
 - 1.2.1. Morbidity and Mortality From Infectious Diseases in Africa
 - 1.2.2. Morbidity and Mortality From Infectious Diseases in the Americas
 - 1.2.3. Infectious Disease Morbidity and Mortality in Asia
 - 1.2.4. Morbidity and Mortality From Infectious Diseases in Europe
- 1.3. The Taxonomy Of Infectious Agents
 - 1.3.1. Viruses
 - 1.3.2. Bacteria
 - 1.3.3. Fungus
 - 1.3.4. Parasites
- 1.4. Disease-producing Properties of Micro-organisms
 - 1.4.1. Mechanisms of Pathogenicity
 - 1.4.2. Mechanisms of Adhesion and Multiplication
 - 1.4.3. Mechanisms Enabling the Acquisition of Nutrients From The Host
 - 1.4.4. Mechanisms Inhibiting The Phagocytic Process
 - 1.4.5. Mechanisms For Evading The Immune Response
- 1.5. Microscopy and Staining
 - 1.5.1. Microscopes and Types of Microscopes
 - 1.5.2. Composite Stains
 - 1.5.3. Acid-resistant Micro-organism Staining
 - 1.5.4. Staining to Demonstrate Cellular Structures

- 1.6. Cultures and Growth of Micro-organisms
 - 1.6.1. General Culture Mediums
 - 1.6.2. Specific Culture Methods
- 1.7. Effect of Chemical and Physical Agents on Micro-organisms
 - 1.7.1. Sterilisation and Disinfection
 - 1.7.2. Disinfectants and Antiseptics Used in Practice
- 1.8. Molecular Biology and its Importance for the Infectologist
 - 1.8.1. Bacterial Genetics
 - 1.8.2. Polymerase Chain Reaction Tests
- 1.9. Indication and Interpretation of Microbiological Studies

Module 2. Cancer and Immunosuppression

- 2.1. The Innate and Adaptive Immune Response
 - 2.1.1. Cells and Cytokines in Response to Infectious Agents
 - 2.1.2. Characteristics of the Innate and Adaptive Immune Response
- 2.2. Immunosuppression in Different Conditions in Patients with Sepsis
 - 2.2.1. The role of Cytotoxics in Immunosuppression
 - 2.2.2. The role of Cytotoxics in Immunosuppression
 - 2.2.3. Infection in Transplant Patients
- 2.3. The Oncohematological Patient with Sepsis
 - 2.3.1. Medullary Aplasia
 - 2.3.2. Neutropenia
 - 2.3.3. Infections in Patients with Cancer
- 2.4. The Diabetic Patient with Sepsis
 - 2.4.1. The Immune System in Diabetes Mellitus
 - 2.4.2. Main Infections in the Diabetic Patient
- 2.5. Comprehensive Approach to the Immuno-Compromised Patient with Sepsis
 - 2.5.1. Diagnostic Considerations
 - 2.5.2. Therapeutic Measures

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- 2.6. The Link Between Cancer and Micro-organisms
 - 2.6.1. Oncogenesis and Infection
 - 2.6.2. Viruses and Cancer: Epstein Barr Virus Hepatitis B and C Human Papillomavirus T. Herpes cell Lymphoma/Leukemia Virus, Herpes, Kaposi's Sarcoma-associated Virus
- 2.7. Bacterias and Cancer
 - 2.7.1. Helicobacter Pylori.
- 2.8. Parasites and Cancer
 - 2.8.1. Schistosoma Haematobium and Opisthorchis Viverrini
- 2.9. Bacteria Allies Against Cancer

Module 3. Chronic Non-Communicable Diseases and Infections

- 3.1. Infections and the Chronic Inflammatory Response
 - 3.1.1. Immune System Cells of the Chronic Inflammatory Response to Infections
 - 3.1.2. The Granulomatous Response and Delayed-type Hypersensitivity
 - 3.1.3. The Role of Chemical Mediators of the Chronic Inflammatory Response
- 3.2. Stress, Immunity and Infectious Agents
 - 3.2.1. Neurological, Endocrine and Immune Interrelationships
 - 3.2.2. Stress and the Immune Response
 - 3.2.3. Chronic Fatigue Syndrome and Infections
- 3.3. Atherosclerosis, Cardiovascular Disease and the Role of Infectious Agents
 - 3.3.1. The Role of Infectious Agents in Atherosclerosis
 - 3.3.2. Cardiovascular Disease Mortality and its Association with Infectious Agents
 - 3.3.3. Cardiovascular Mortality in Patients with Pneumonia
- 3.4. Digestive Diseases Associated with Infectious Microorganisms
 - 3.4.1. Gut Flora and its Important Functions
 - 3.4.2. Gastroduodenal Peptic Ulcer Disease and Helicobacter Pylori
 - 3.4.3. Inflammatory Bowel Disease and Infections
 - 3.4.4. Whipple's Disease

- 3.5. Neurological Diseases and Infections
 - 3.5.1 Dementia and Infections
 - 3.5.2. Multiple Sclerosis and its Relationship to Certain Infectious Agents
 - 3.5.3. Guillain-Barre Syndrome, Immunity and Viral Infections
 - 3.5.4. Parkinson's Disease and its Association with Infections
- 3.6. Endocrinopathies and Infections
 - 3.6.1. Diabetes Mellitus and Infections
 - 3.6.2. Chronic Thyroiditis and Infections
- 3.7. The Infectious Theory of Rheumatic Diseases
 - 3.7.1. Rheumatoid Arthritis.
 - 3.7.2. Systemic Lupus Erythematosus
 - 3.7.3. Seronegative Spondyloarthropathies
 - 3.7.4. Weneger's Granulomatosis
 - 3.7.5. Polymyalgia Rheumatica

Module 4. Multi-Resistance and Vaccines

- 4.1. The Silent Epidemic of Antibiotic Resistance
 - 4.1.1. Globalisation and Resistance
 - 4.1.2. Change from Susceptible to Resistant of the Microorganisms
- 4.2. The Main Genetic Mechanisms of Antimicrobial Resistance
 - 4.2.1. Describe the Main Mechanisms of Antimicrobial Resistance
 - 4.2.2. Selective Antimicrobial Pressure on Antimicrobial Resistance
- 4.3. Superbugs
 - 4.3.1. Pneumococcus Resistant to Penicillin and Macrolides
 - 4.3.2. Multidrug-Resistant Staphylococci
 - 4.3.3. Resistant Infections in Intensive Care Units (ICUs)
 - 4.3.4. Resistant Urinary Tract Infections
 - 4.3.5. Other Multi-Resistant Microorganisms
- 4.4. Resistant Viruses
 - 4.4.1. HIV
 - 4.4.2. Influenza
 - 4.4.3. Hepatitis Viruses

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5.2.5. Treatment

4.5.	Multidrug resistant Malaria		
	4.5.1.	Chloroquine Resistance	
	4.5.2.	Resistance to Other Antimalarials	
4.6.	The Main Genetic Studies of Antimicrobial Resistance		
	4.6.1.	Interpretation of Resistance Studies	
4.7.	Global Strategies for Reducing Antimicrobial Resistance		
	4.7.1.	The Control of Prescribing Antibiotics	
	4.7.2.	Microbiological Mapping and Clinical Practice Guidelines	
4.8.	General Overview of Vaccines		
	4.8.1.	Immunological Basis of Vaccination	
	4.8.2.	The Process of Vaccination Production	
	4.8.3.	Quality Control of Vaccines	
	4.8.4.	Vaccine Safety and Major Adverse Events	
	4.8.5.	Clinical and Epidemiological Studies for Vaccine Approval	
4.9.	The Use of Vaccines		
	4.9.1.	Vaccine-Preventable Diseases and Vaccination Programmes	
	4.9.2.	Global Experiences of the Effectiveness of Vaccination Programmes	
	4.9.3.	Vaccine Candidates for New Diseases	
Mod	ule 5. R	Pare Infectious Diseases and Other Challenges in Infectiology	
5.1.	General Overview of Rare Infectious Diseases		
	5.1.1.	General concepts	
	5.1.2.	Epidemiology of Rare or Uncommon Infectious Diseases	
5.2.	Bubonic Plague		
	5.2.1.	Definition	
	5.2.2.	Etiology	
	5.2.3.	Clinical Picture	
	5.2.4.	Diagnosis	

5.3. Lyme Disease

5.4. Babesiosis

5.5. Rift Valley Fever

5.6. Diphyllobothriasis
5.6.1. Definition
5.6.2. Etiology
5.6.3. Clinical Picture
5.6.4. Diagnosis
5.6.5. Treatment

5.7. Zygomycosis

5.7.1. Definition5.7.2. Etiology5.7.3. Clinical Picture

5.7.4. Diagnosis5.7.5. Treatment

5.3.1. Definition5.3.2. Etiology5.3.3. Clinical Picture5.3.4. Diagnosis5.3.5. Treatment

5.4.1. Definition5.4.2. Etiology5.4.3. Clinical Picture5.4.4. Diagnosis5.4.5. Treatment

5.5.1. Definition5.5.2. Etiology5.5.3. Clinical Picture5.5.4. Diagnosis5.5.5. Treatment



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- Cysticercosis
 - 5.8.1. Definition
 - 5.8.2. Etiology
 - Clinical Picture
 - 5.8.4. Diagnosis
 - 5.8.5. Treatment
- Kuru
 - 5.9.1. Definition
 - 5.9.2. Etiology
 - Clinical Picture
 - 5.9.4. Diagnosis
 - 5.9.5. Treatment
- 5.10. The Re-emergence of Old Diseases: Causes and Effects
 - 5.10.1. Emerging and New Infectious Diseases that Demand New Approaches to their Control
 - 5.10.2. The Rise of Microbiological Resistance to Antimicrobial Drugs
 - 5.10.3. Development of New Antibiotics
 - 5.10.4. Training and Success of Infectologists



Study the current pathophysiological elements between non-transmissible chronic diseases and infections"

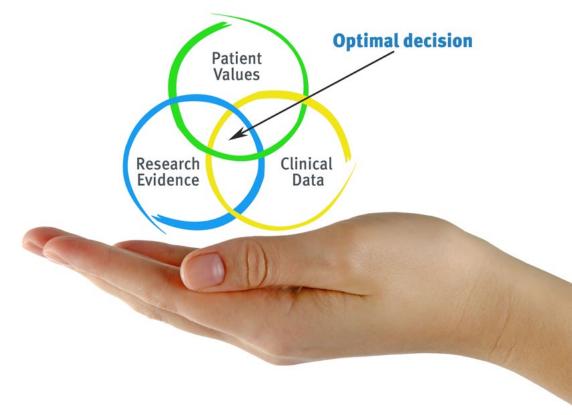


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At TECH we use the Case Method

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. 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, attempting to recreate the actual conditions in a pharmacist'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:

- 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.



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 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

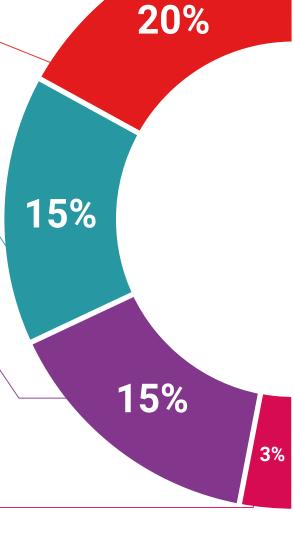
TECH introduces students to the latest techniques, to the latest educational advances, to the forefront of current pharmaceutical care procedures. All of this, first hand, and explained and detailed with precision to contribute to assimilation and a better understanding. And best of all, you can watch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



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



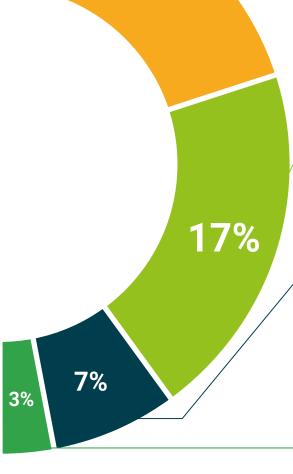
There is scientific evidence on the usefulness of learning by observing experts.

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.



20%





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This **Postgraduate Diploma in Infections Present in Diseases** contains the most complete and up to date Scientist 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 it meets the requirements commonly required by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: Postgraduate Diploma in Infections Present in Diseases Official No of hours: 750 h.



^{*}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...

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education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment



Postgraduate Diploma

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