

# Postgraduate Diploma

## Diagnosis and Treatment of Viral Infections





## Postgraduate Diploma Diagnosis and Treatment of Viral Infections

Course Modality: **Online**

Duration: **6 months.**

Certificate: **TECH Technological University**

Official N° of Hours: **400 h.**

Website: [www.techitute.com/pk/pharmacy/postgraduate-diploma/postgraduate-diploma-diagnosis-treatment-viral-infections](http://www.techitute.com/pk/pharmacy/postgraduate-diploma/postgraduate-diploma-diagnosis-treatment-viral-infections)

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# 01

# Introduction

The program in Diagnosis and Treatment of Viral Infections is aimed at increasing the scientific education of pharmacy personnel related to research and the issuing of the correct and timely treatment for infectious diseases. The program has a predominantly vocational focus, which favors the acquisition and development of knowledge and skills that will determine an improvement in the quality of pharmaceutical care of patients with infectious diseases, resulting in better morbidity and mortality rates for these pathologies in the population.



A man's profile is shown in a laboratory setting, looking towards the left. The background is filled with shelves of various bottles and containers, suggesting a clinical or research environment. A large green diagonal shape is overlaid on the right side of the image.

“

*Thanks to this Postgraduate Diploma, you have the opportunity to update your knowledge comfortably and without sacrificing scientific accuracy, in order to incorporate the latest advances in the approach to infectious pathology into your daily medical practice"*

Infectious diseases are the main cause of death and the reduction of life expectancy in the world. In 2016, of the total 56.4 million deaths worldwide, 33% were due to infectious diseases, 30% to cardiovascular diseases and 10% to cancer. The fight against disease will have two simultaneous fronts: infectious diseases and chronic non-communicable diseases.

Around 17.3 million people died from infections in 2016, with the most common causes of death being from lower respiratory infections (3.7 million), malaria (2.2 million), tuberculosis (1.3 million), diarrhea (1.4 million) and HIV/AIDS (1.1 million). The most important factors to take into consideration in relation to infectious diseases are demographics and human behavior, technological and industrial development, economic development and variations in land use, intercontinental travelling and commerce, climate change, microbiotic adaptation and finally the disappearance or reduction of efficient public health measures.

These factors, interacting with each other, have meant that we should not consider any part of the planet reasonably isolated from the rest, nor the appearance, reappearance or dissemination of imported or apparently eradicated infectious diseases in our environment to be impossible.

The complex international epidemiological situation so far this century, exemplified by the deliberate release of Bacillus anthracis spores, the emergence of West Nile virus, Severe Acute Respiratory Syndrome (SARS), the zoonotic spread of monkeypox, the Ebola epidemic, cases of yellow fever, dengue and cholera, the emergence of new arbovirosis such as Chikungunya and Zika, HIV/AIDS, leptospirosis, tuberculosis, pneumonia and the increase in antibiotic resistance with the development of multi-resistant bacteria, highlight the unprecedented need to improve the process of training and improvement of human capital.

This **Postgraduate Diploma in Diagnosis and Treatment of Viral Infections** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ Clinical cases presented by experts in Diagnosis and Treatment of Viral Infections
- ◆ 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 innovations in Diagnosis and Treatment of Viral Infections
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course.
- ◆ 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



*Seize the moment and gain up-to-date knowledge on the management of infectious infections and their correct pharmacological treatment"*

“

*This Postgraduate Diploma is the best investment you can make in choosing a course for two reasons: you will obtain a Postgraduate Diploma from TECH Technological University, and you will acquire the best and most up-to-date education in Diagnosis and Treatment of Viral Infections”*

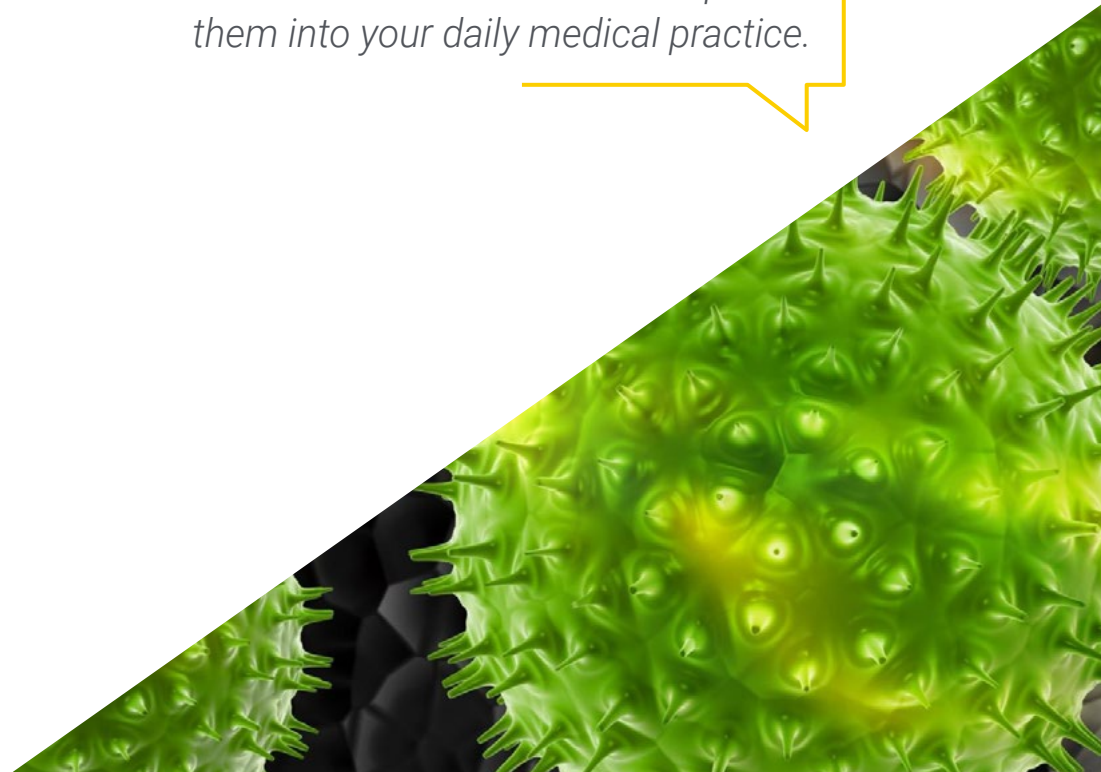
Its teaching staff is made up of prestigious and renowned professionals with a long career in health care, teaching and research, who have worked in many countries on several continents, developing professional and teaching experience that they deliver in an extraordinary way in this program.

The methodological design of this Postgraduate Diploma, developed by a multidisciplinary team of e-learning experts, integrates the latest advances in educational technology for the creation of numerous educational multimedia tools that allow the professional, based primarily on the problem-based learning method, to address real problems in their daily clinical practice, which will allow them to advance by acquiring knowledge and developing skills that will impact their future professional work.

It should be noted that each of the contents generated, as well as the videos, self-tests, clinical cases and modular exams have been thoroughly reviewed, updated and integrated by the professors and the team of experts that make up the working group, in order to facilitate the learning process in an educational and phased manner to achieve the objectives of the program.

*This up-to-date program is the best on the educational landscape in infectious diseases and pharmaceuticals.*

*Don't miss the opportunity and get up to date on advances in the treatment of infections in order to incorporate them into your daily medical practice.*



02

# Objectives

The fundamental purpose of the teaching program is to educate and improve the pharmacist's knowledge in order to achieve a deep theoretical mastery of the most current scientific knowledge in the area of clinical infectious diseases. It also aims to develop skills that will allow them to deal more comfortably and confidently with the complex process of health and infectious diseases in individuals and communities.







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*This program will provide you with a sense of confidence in your medical practice, which will help you grow personally and professionally”*



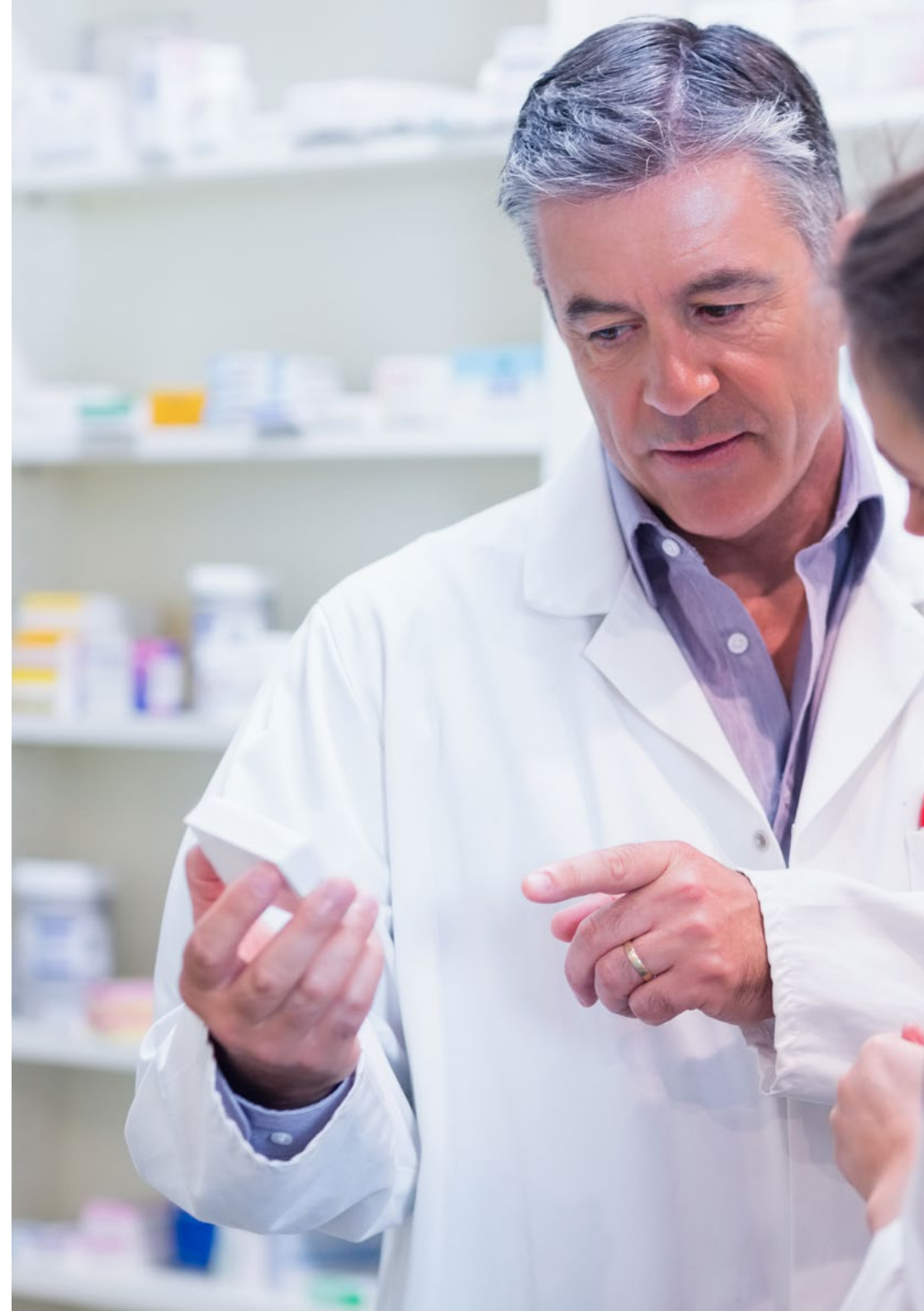
## General Objectives

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- Update or deepen your knowledge and develop your skills for daily clinical practice in healthcare, teaching or research roles in the field of infectious diseases in order to provide individual or group population care that allows for the improvement of health indicators
- Improve the medical attention and the overall health of patients with infectious diseases based on integral care, the application of the epidemiological clinical method and the correct use of antimicrobials in correspondence with the most up to date scientific evidence

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*Improve your professional skills as a pharmacist by taking advantage of the preparation offered by the Postgraduate Diploma in Diagnosis and Treatment of Viral Infections”*





## Specific Objectives

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### Module 1. Clinical Research in Infectious Diseases

- ◆ Provide students with advanced, in-depth, up-to-date, and multidisciplinary information that allows them to comprehensively approach the process of health-infectious diseases
- ◆ Provide theoretical and practical education to enable a certain clinical diagnosis to be made, supported by the efficient use of diagnostic methods to indicate an effective integral therapy

### Module 2. Viral and Antiviral Diseases

- ◆ To substantiate the importance of the control of viral haemorrhagic diseases and the detailed study of the most frequent and deadly diseases for the reduction of morbidity and mortality worldwide
- ◆ Study the current pathophysiological elements between non-transmissible chronic diseases and infections
- ◆ Address in detail and depth the most up-to-date scientific evidence in the vast world of hepatitis

### Module 3. HIVIDS Infection

- ◆ Explain the pathophysiological and pathogenic interrelationships between tuberculosis co-infection and HIV/AIDS infection

03

# Structure and Content

The teaching program has been created by a group of professors and medical professionals from various medical specialties, with extensive medical, research and teaching experience in several countries in Africa, Central America and South America, interested in integrating the latest and most up-to-date scientific knowledge of clinical infectious diseases and antimicrobial therapeutics, to guarantee professional development to improve the daily clinical practice of professionals who care for patients or populations with infectious diseases through pharmacological treatment.



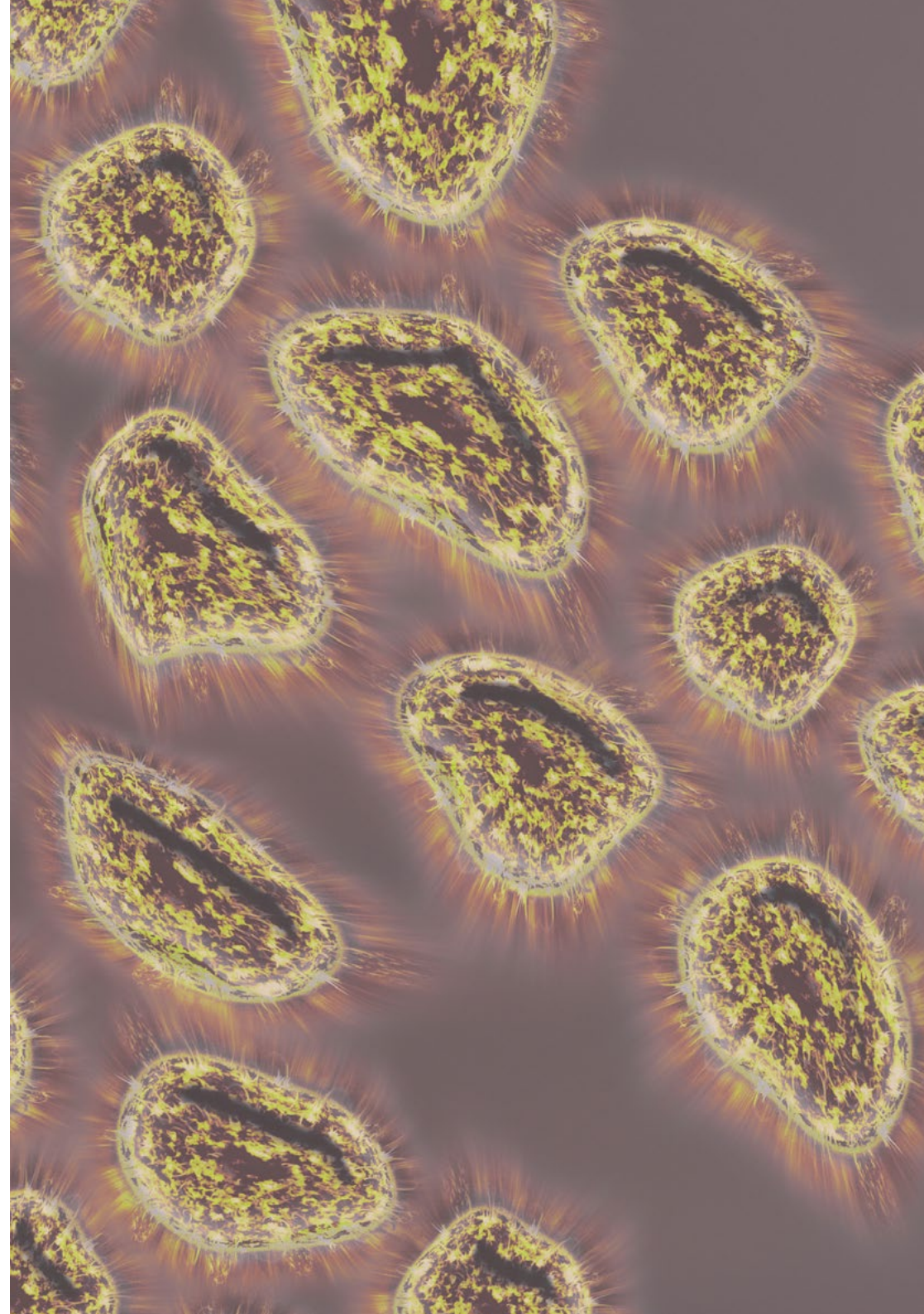


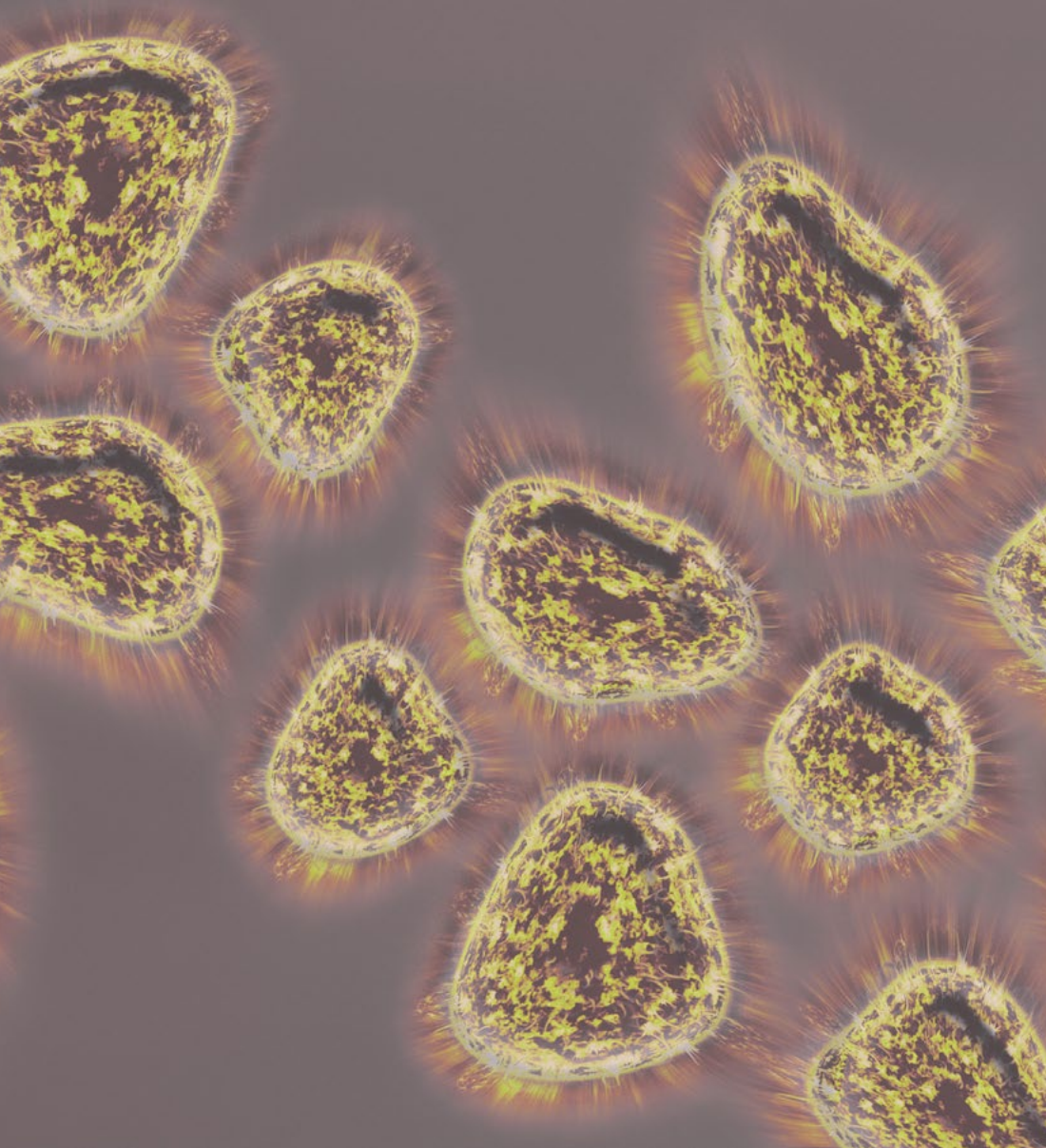
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*This Postgraduate Diploma in Diagnosis and Treatment of Viral Infections contains the most complete and up-to-date scientific program on the market”*

## 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 Health Regulations
  - 1.7.1. Components of International Health Regulations
  - 1.7.2. Diseases Subject to International Sanitary Control
  - 1.7.3. Importance of International Health Regulations





- 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. Viral and Antiviral Diseases

- 2.1. Principles of Virology
  - 2.1.1. Epidemiology of Viral Infections
  - 2.1.2. Fundamental Concepts in the Study of Viruses and Their Diseases
  - 2.1.3. Main Viruses Which Affect Humans
- 2.2. Hemorrhagic Viral Diseases
  - 2.2.1. Epidemiology
  - 2.2.2. Classification
  - 2.2.3. African Hemorrhagic Fevers
  - 2.2.4. South American Hemorrhagic Fevers
  - 2.2.5. Other Hemorrhagic Fevers

- 2.3. Arbovirus:
  - 2.3.1. General Concepts and Epidemiology of the Arboviruses
  - 2.3.2. Dengue.
  - 2.3.3. Yellow Fever.
  - 2.3.4. Chikungunya
  - 2.3.5. Zika
  - 2.3.6. Other Arboviruses
- 2.4. Herpetic Diseases
  - 2.4.1. Simple Herpes
  - 2.4.2. Zoster Herpes
- 2.5. Viral Exanthematous Diseases
  - 2.5.1. Rubella
  - 2.5.2. Measles
  - 2.5.3. Chickenpox
  - 2.5.4. Smallpox
  - 2.5.5. Other Exanthematous Diseases
- 2.6. Viral Hepatitis
  - 2.6.1. Non-Specified Viral Infections
  - 2.6.2. Hepatotropic Viruses
  - 2.6.3. Acute Viral Hepatitis
  - 2.6.4. Chronic Viral Hepatitis
- 2.7. Infectious Mononucleosis
  - 2.7.1. Epidemiology
  - 2.7.2. Etiological Agent
  - 2.7.3. Pathogenesis
  - 2.7.4. Clinical Picture
  - 2.7.5. Complications
  - 2.7.6. Diagnosis
  - 2.7.7. Treatment



- 2.8. Human Rabies
  - 2.8.1. Epidemiology
  - 2.8.2. Etiological Agent
  - 2.8.3. Pathogenesis
  - 2.8.4. Clinical Picture
  - 2.8.5. Complications
  - 2.8.6. Diagnosis
  - 2.8.7. Treatment
- 2.9. Viral Encephalitis
  - 2.9.1. Non-Herpetic Viral Encephalitis
  - 2.9.2. Herpetic Viral Encephalitis
  - 2.9.3. Slow Virus Encephalitis
- 2.10. Antivirals
  - 2.10.1. General Concepts
  - 2.10.2. Main Definitions Related to Antivirals
  - 2.10.3. Classification
  - 2.10.4. Mechanisms of Action
- 2.11. Main Antivirals for Herpes Viruses
  - 2.11.1. Mechanisms of Action
  - 2.11.2. Antiviral Spectrum
  - 2.11.3. Pharmacokinetics and Pharmacodynamics
  - 2.11.4. Dose and Presentation
- 2.12. Main Antivirals for Respiratory Infections
  - 2.12.1. Mechanisms of Action
  - 2.12.2. Antiviral Spectrum
  - 2.12.3. Pharmacokinetics and Pharmacodynamics
  - 2.12.4. Dose and Presentation
- 2.13. Main Antivirals for Hepatitis
  - 2.13.1. Mechanisms of Action
  - 2.13.2. Antiviral Spectrum
  - 2.13.3. Pharmacokinetics and Pharmacodynamics
  - 2.13.4. Dose and Presentation

### Module 3. HIVIDS Infection

- 3.1. Epidemiology
  - 3.1.1. Worldwide Morbidity and by Geographical Region
  - 3.1.2. Worldwide Mortality and by Geographical Region
  - 3.1.3. Main Vulnerable Groups
- 3.2. Etiopathogenesis
  - 3.2.1. Viral Replication Cycle
  - 3.2.2. Immune Response to HIV
  - 3.2.3. Sanctuary Sites
- 3.3. Clinical Classifications of Use
  - 3.3.1. Clinical Stages of HIV Infection
  - 3.3.2. Clinical and Immunological Classification of HIV Infection
- 3.4. Clinical Manifestations According to the Stages of the Illness
  - 3.4.1. General Clinical Manifestations
  - 3.4.2. Clinical Manifestations By Organs and Systems
- 3.5. Opportunist Illnesses
  - 3.5.1. Minor Opportunist Illnesses
  - 3.5.2. Major Opportunist Illnesses
  - 3.5.3. Primary Prophylaxis of Opportunistic Infections
  - 3.5.4. Secondary Prophylaxis of Opportunistic Infections
  - 3.5.5. Neoplasms in the Patient with HIV Infection
- 3.6. Diagnosis in the HIV/AIDS Infection
  - 3.6.1. Direct HIV Screening Methods
  - 3.6.2. Tests for Antibodies Against HIV
- 3.7. Antiretroviral Treatment
  - 3.7.1. Antiretroviral Treatment Criteria
  - 3.7.2. Main Antiretroviral Drugs
  - 3.7.3. Monitoring of Antiretroviral Treatment
  - 3.7.4. Antiretroviral Treatment Failure
- 3.8. Integral Care for a Person Living With HIV/AIDS
  - 3.8.1. Cuban Model for Integral Care of People Living With HIV
  - 3.8.2. Global Experiences and WHO AIDS' Leadership in HIV/AIDS Control

04

# 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.



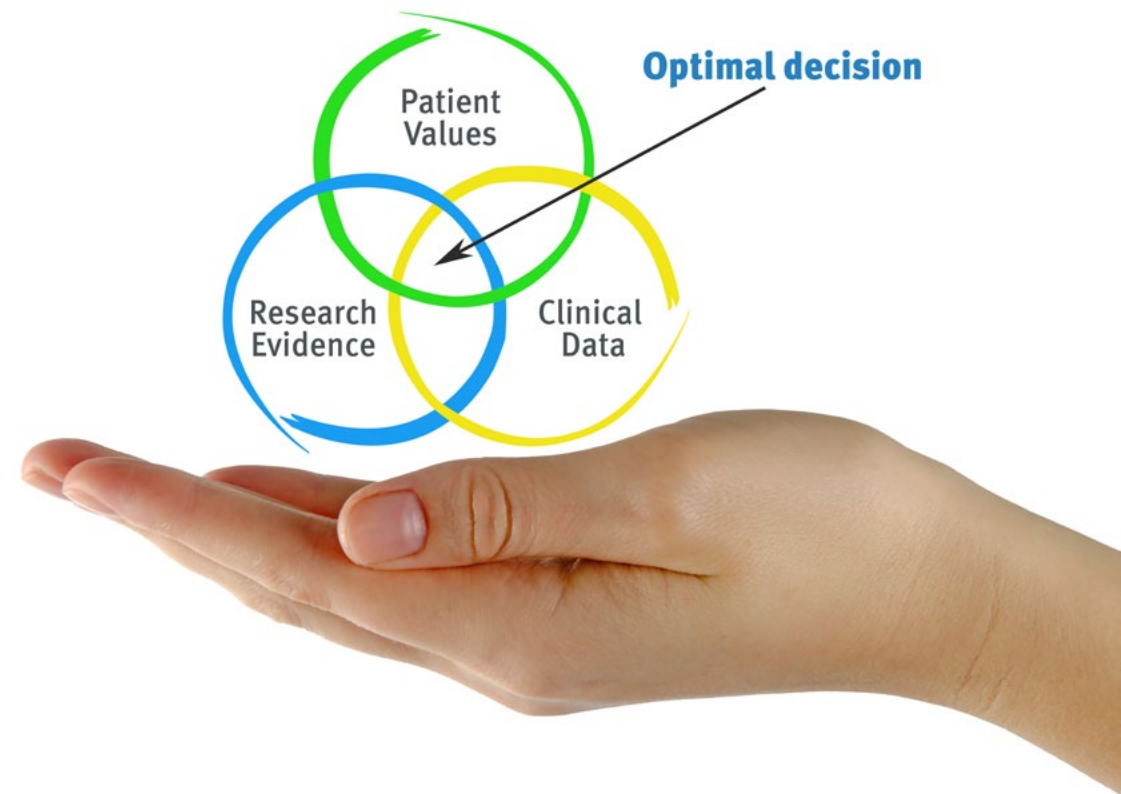


*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## 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

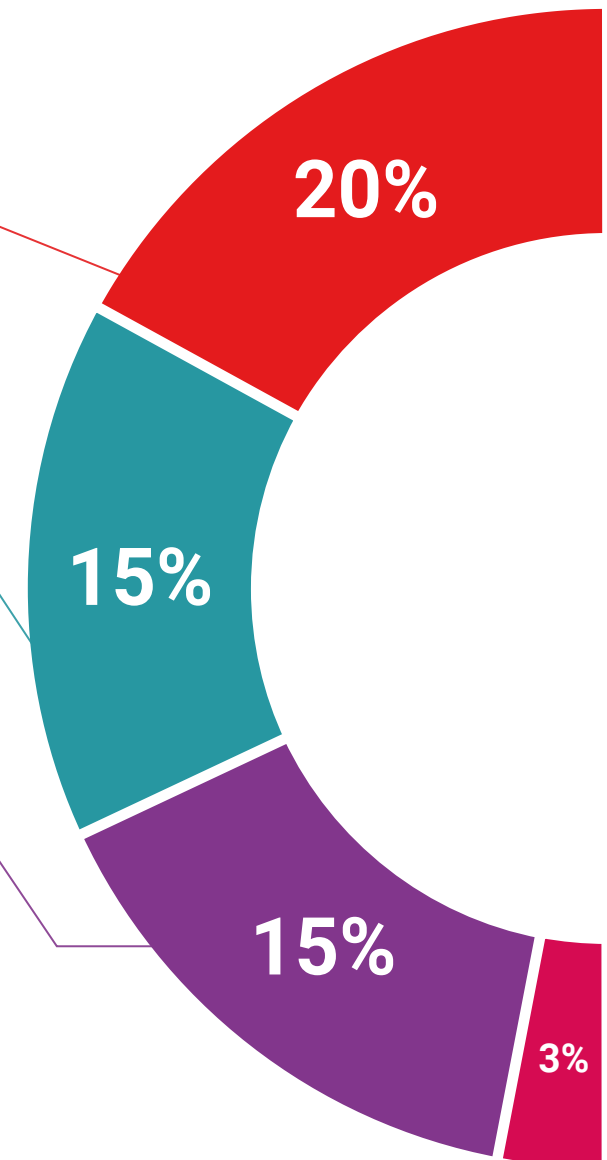
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

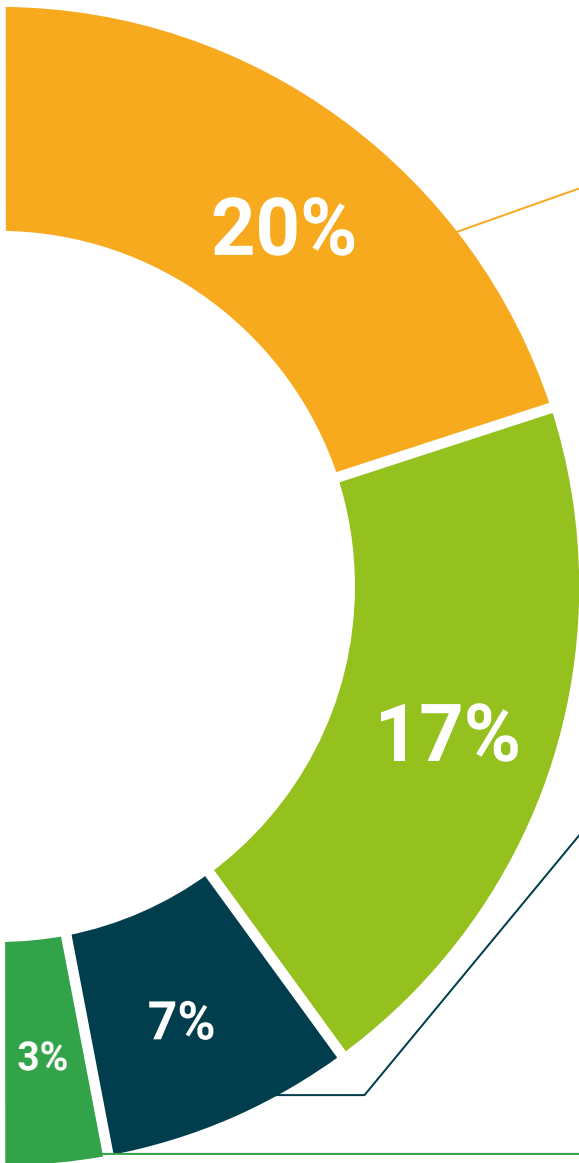


### Additional Reading

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.



05

# Certificate

The Postgraduate Diploma in Diagnosis and Treatment of Viral Infections guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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 Diploma in Diagnosis and Treatment of Viral Infections** 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 Diagnosis and Treatment of Viral Infections**

Official N° of Hours: **400 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.

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present quality  
online training  
development languages  
classroom



**Postgraduate Diploma**  
Diagnosis and Treatment  
of Viral Infections

Course Modality: Online

Duration: 6 months.

Certificate: TECH Technological University

Official N° of Hours: 400 h.

# Postgraduate Diploma

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