

# Postgraduate Diploma

## Diagnosis and Treatment of Viral Infections





## Postgraduate Diploma Diagnosis and Treatment of Viral Infections

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

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

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Structure and Content

---

*p. 12*

04

Methodology

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*p. 18*

05

Certificate

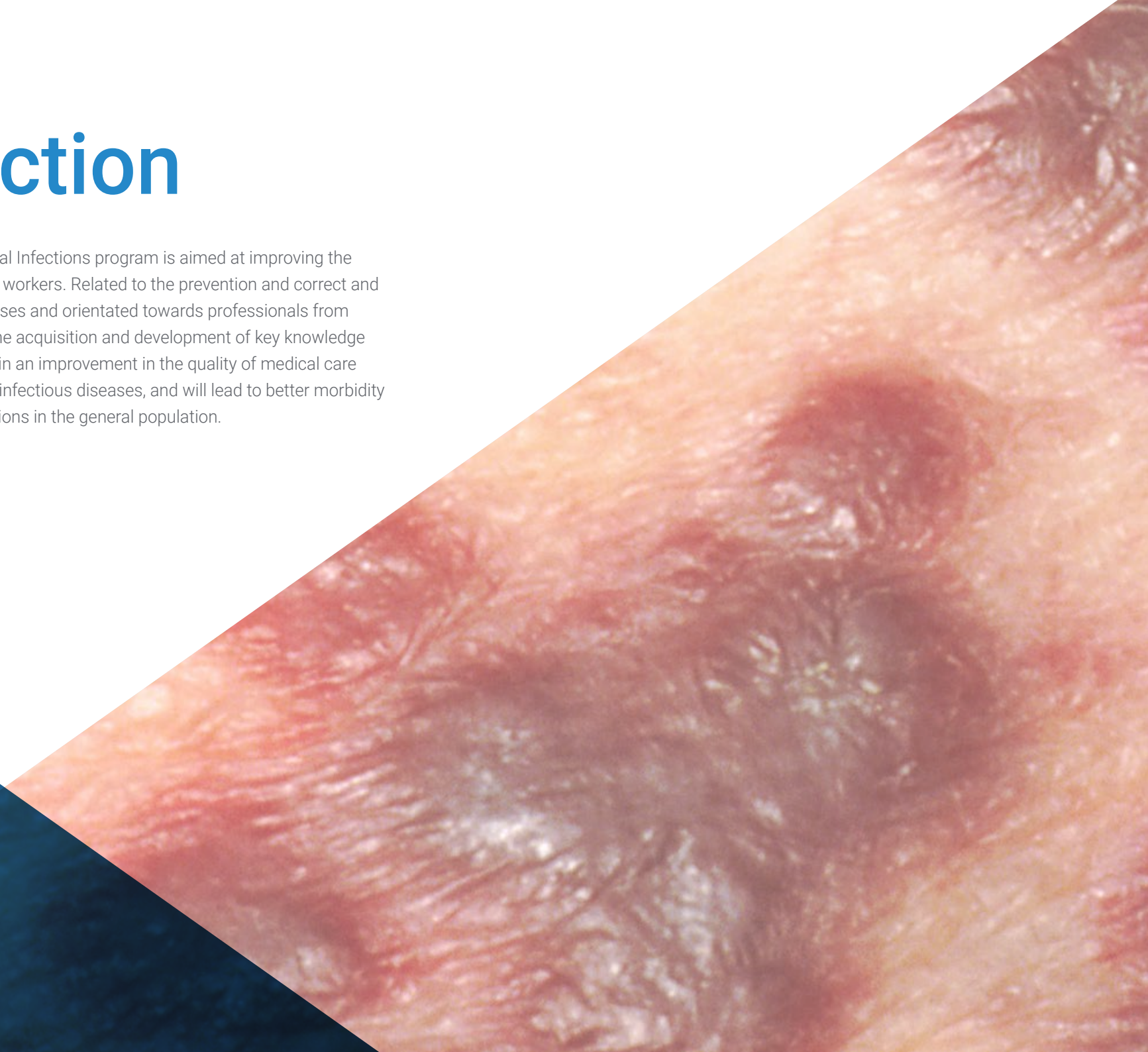
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*p. 26*

# 01

# Introduction

The Diagnosis and Treatment of Viral Infections program is aimed at improving the scientific preparation of health care workers. Related to the prevention and correct and timely treatment of infectious diseases and orientated towards professionals from the industry who are interested in the acquisition and development of key knowledge and skills. This will inevitably result in an improvement in the quality of medical care provided to patients suffering from infectious diseases, and will lead to better morbidity and mortality rates for these conditions in the general population.



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*The Postgraduate Diploma in the Diagnosis and Treatment of Viral Infections offers you the opportunity to update your knowledge with the utmost scientific rigor, providing students with the latest advances in the approach to infectious conditions"*

Infectious diseases remain the leading cause of mortality and disability (i.e. the loss of a productive life) in the world. In 2016, of the 56.4 million total deaths worldwide, 33% were due to infectious diseases, 30% to cardiovascular diseases and 10% as a result of cancer. The fight against disease can be separated into two categories: infectious diseases and chronic non-communicable diseases.

From the 17.3 million people who died from infection diseases in 2016, the most frequent causes of death were lower respiratory infections (3.7 million), malaria (2.2 million), tuberculosis (1.3 million), diarrhea (1.4 million), and HIV/AIDS infection (1.1 million). The most important factors to take into consideration regarding infectious diseases are demographics and human behavior, technological and industrial development, economic development and the 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 mean that it would be wrong to consider any part of the planet to be isolated enough from the rest, nor the appearance, reappearance or dissemination of imported or apparently eradicated infectious diseases in our environment to be impossible.

This century's complex international epidemiological situation, so far exemplified by the deliberate release of *Bacillus anthracis* spores as a bioweapon which causes pulmonary anthrax in victims when inhaled, the emergence of West Nile virus as a pathogen in the United States, the SARS epidemic, the zoonotic spread of monkeypox in the United States, the threat of pandemic influenza, the Ebola epidemic in Africa, the emergence of yellow fever cases in Angola, coupled with the re-emergence of Dengue and Cholera. The emergence of new arboviruses in locations like Chikungunya and more recently Zika in the Americas. Together with the mortality rate from other endemic infectious diseases, such as HIV/AIDS, leptospirosis, tuberculosis, community-acquired pneumonia and our increased resistance to antibiotics with the development of multidrug-resistant bacteria, all of which highlight the need for professionals with specialist expertise in order to raise the performance levels of all the personnel needed to face up to the challenges involved in controlling and dealing with biological, hospital and public health emergencies and provide a higher standard of health care the world over.

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:

- ♦ The development of clinical cases presented by experts in the 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
- ♦ New developments in the Diagnosis and Treatment of Viral Infections
- ♦ Practical exercises where the self-assessment process can be carried out 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



*Don't miss the opportunity to learn about advances in the treatment of infections to incorporate them into your daily medical practice"*

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*This Postgraduate Diploma is the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in Diagnosis and Treatment of Viral Infections, you will obtain a degree from TECH Technological University"*

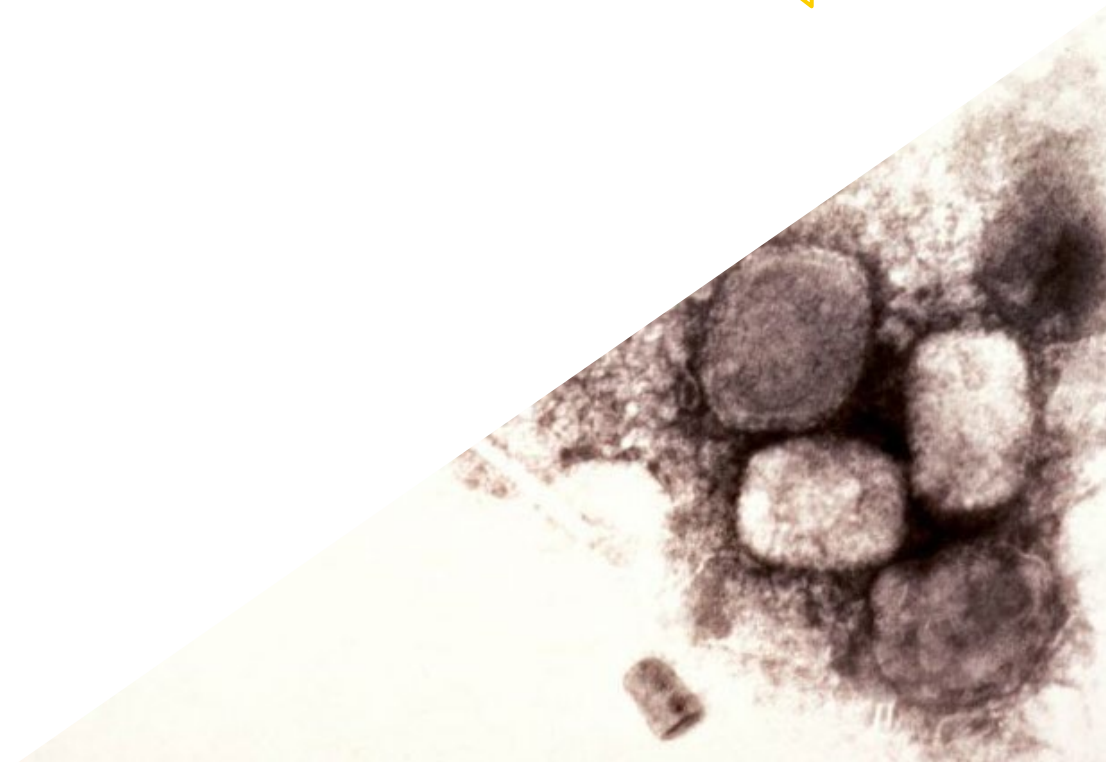
TECH's teaching staff is made up of prestigious and renowned professionals with an extensive careers in health care, teaching and research, who have worked in many countries and on several continents, developing a professional teaching experience that delivers the most essential and highest quality content.

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 multimedia educational tools that allow the professional, based primarily on the problem-solving method, to face the solution of real problems in their daily clinical practice, all of which will allow them to advance in the acquisition of knowledge and the development of skills that will positively impact their future professional work.

It should be noted that all the contents generated for this Postgraduate Diploma, as well as the videos, self-evaluations, clinical cases and exams have been thoroughly reviewed, updated, and integrated by the professors and the team of experts that make up TECH's staff. This will facilitate the learning process with a step-by-step approach in order to achieve the program's teaching objectives.

*This is the most complete and up-to-date program in the treatment of viral infections.*

*Seize the moment and empower yourself with the most up-to-date knowledge on the management of coronavirus infections.*



# 02

# Objectives

The main purpose of the teaching program is to provide education and professional development so that physicians can thoroughly master the most current scientific findings in the field of clinically infectious diseases. In addition to developing the skills that will allow them to approach outbreaks of infectious diseases in individuals and communities with more confidence and security.







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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 your knowledge and develop your skills in healthcare, teaching or research roles in the field of infectious diseases in order to provide care for individuals or groups
- 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



*Improve patient care by taking advantage of the Postgraduate Diploma in the Diagnosis and Treatment of Viral Infections offered by TECH "*





## Specific objectives

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### Module 1. Clinical Research into Infectious Diseases

- ◆ Know the principles of the clinical method in the process of the diagnosis of infectious diseases
- ◆ Manage Epidemiology in the study of infectious diseases
- ◆ Learn, in depth, about clinical epidemiology and evidence-based medicine
- ◆ Understand the behavior of infectious diseases in the population
- ◆ Know how to deal with epidemic outbreaks

### Module 2. Viral and Antiviral Diseases

- ◆ Develop the principles of virology and understand the epidemiology of viral infections
- ◆ Study the different types of viral hemorrhagic diseases, arbovirosis, herpetic or exanthematous viral diseases, among others
- ◆ Recognize the main antivirals for respiratory infections and understand how they work

### Module 3. HIV/AIDS Infection

- ◆ Determine the epidemiology of HIV and its mortality rate globally and by geographic region
- ◆ Identify the main groups vulnerable to this infection
- ◆ Associate major and minor opportunistic diseases and to know the techniques for their prophylaxis
- ◆ Provide comprehensive care for people living with HIV/AIDS based on the Cuban Model

03

# Structure and Content

The teaching program has been created by a group of professors and medical professionals from a variety of medical specialties, who have done extensive medical research and possess vast teaching experience in several countries in Africa, Central and South America. They are interested in integrating the latest scientific findings in clinically infectious diseases and antimicrobial therapeutics, to ensure professional development and the improvement of the daily clinical practice of professionals who care for patients with infectious diseases.



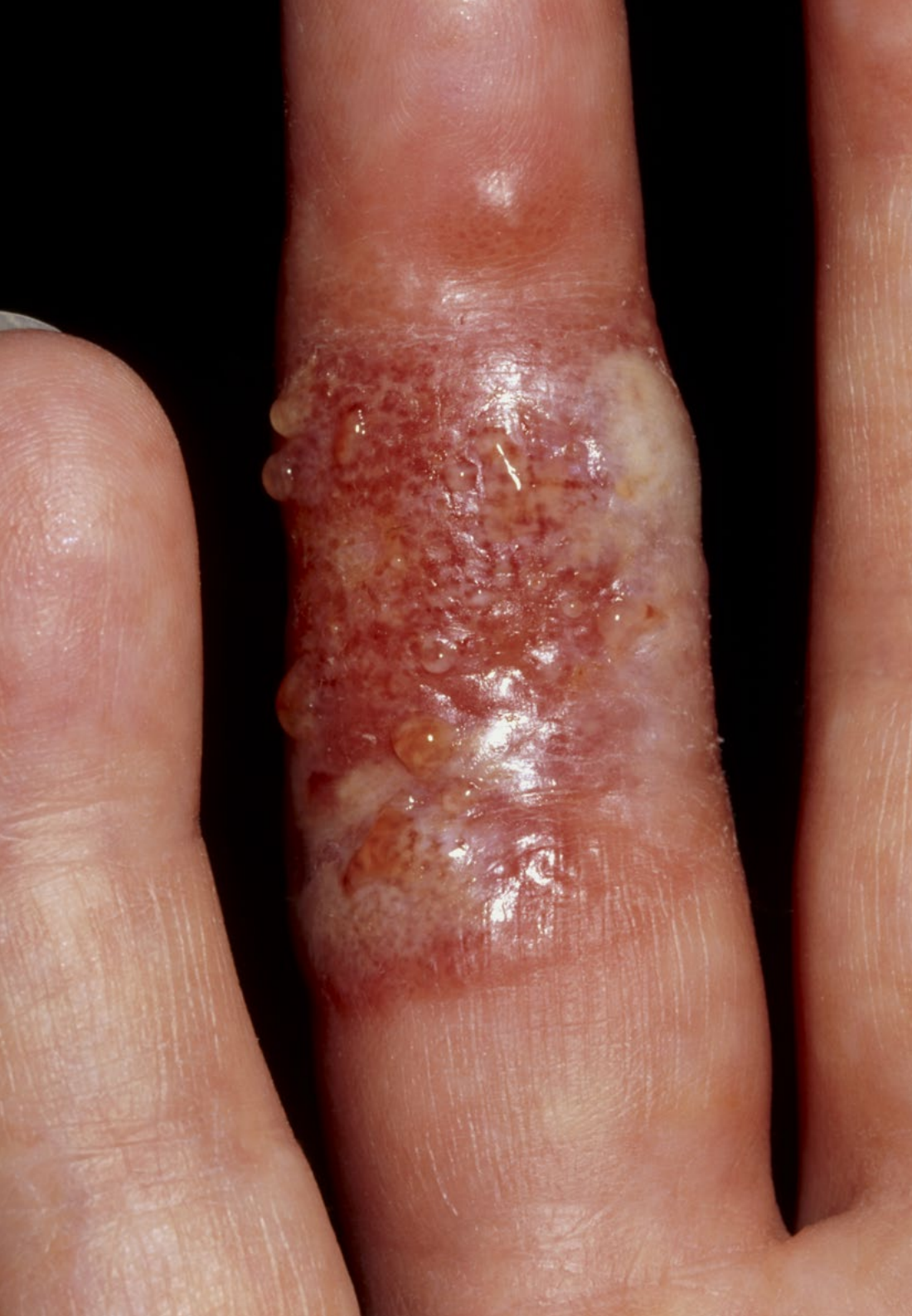


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*This Postgraduate Diploma in Diagnosis and Treatment of Viral Infections contains the most complete and up-to-date scientific program on the market”*

## 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 to Control of Epidemic Outbreaks
- 1.6. Epidemiological Monitoring
  - 1.6.1. Types of Epidemiological Monitoring
  - 1.6.2. Epidemiological Monitoring Systems Design
  - 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 Infectious Diseases
  - 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. Herpes Simplex
  - 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. HIV/AIDS 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 Opportunistic Infections
  - 3.5.2. Major Opportunistic Infections
  - 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.





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*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 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.

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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 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.*



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.



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.



# 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 qualification issued by TECH Technological University.





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

This **Postgraduate Diploma in Diagnosis and Treatment of Viral Infections** contains the most complete and updated 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: **575 h.**



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



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

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

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