

Postgraduate Certificate

The Clinical Method and Scientific
Research in Infectious Diseases





Postgraduate Certificate

The Clinical Method and Scientific Research in Infectious Diseases

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

Website: www.techtute.com/us/medicine/postgraduate-certificate/clinical-method-scientific-research-infectious-diseases

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01

Introduction

Update your skill set with this highly scientific and rigorous program on the Clinical Method and scientific research into infectious diseases brought to you by experts from the sector. You will learn the latest techniques and developments which have been made in the field and develop your knowledge and skills regarding infectious diseases. A unique opportunity to specialize in a highly demanding profession.



A close-up photograph of a petri dish containing a bacterial culture. The agar surface is covered with numerous small, circular, yellowish colonies of varying sizes. The dish is held by a gloved hand, and the background is a soft, out-of-focus teal color.

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This Postgraduate Certificate will provide you with the opportunity to update your knowledge with the utmost scientific rigor, incorporating the latest advances in infectious pathology into your daily medical practice"

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 Certificate in The Clinical Method and Scientific Research 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 The Clinical Method and Scientific Research 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
- New developments in The Clinical Method and Scientific Research in Infectious Diseases
- 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



Seize the moment and gain up-to-date knowledge on the management of coronavirus infections"

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This Postgraduate Certificate is the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in The Clinical Method and Scientific Research in Infectious Diseases you will obtain a qualification from TECH Global University"

TECH's teaching staff is made up of prestigious, renowned professionals who have had a long career in health care, teaching and research, and have worked in many countries on several continents, gaining indispensable professional teaching experience that delivers essential content of the highest quality to this Postgraduate Certificate.

The methodological design of this Postgraduate Certificate, 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, which will allow them to advance in the acquisition of knowledge and the development of skills that will positively impact their future professional work.

Each of the contents generated for this Postgraduate Certificate, 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 program, last updated in April 2020, is the most complete and up-to-date course available in the field of clinically infectious diseases.

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



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 safety.



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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

- ♦ 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





Specific objectives

- ♦ 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 training 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 pathologies



*Improve your patient care
by taking advantage of this
Postgraduate Certificate in The
Clinical Method and Scientific
Research in Infectious Diseases"*

03

Course Management

This academic program includes the most specialized teaching staff in the current educational market. They are specialists selected by TECH to develop the whole syllabus. In this way, starting from their own existence and the latest evidence, they have designed the most up-to-date content that provides a guarantee of quality in such a relevant subject.



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TECH offers the most specialized teaching staff in the field of study. Enroll now and enjoy the quality you deserve”

International Guest Director

Dr. Jatin Vyas is a prestigious physician specializing in Microbial Infectious Pathologies and Fungal Immunology. His work philosophy is based on providing holistic care to his patients, with an empathetic approach to pain management. Likewise, his work, code of ethics and values have been recognized on multiple occasions in the form of awards, including the Kass Award for “Clinical Excellence in Infectious Diseases”.

It should be noted that, after completing his residency in Anesthesiology at Case Western Reserve University in Cleveland, he obtained a fellowship in Interventional Pain Management from the University of Iowa. In line with this, he has combined this work with his role as a Research Scientist, focusing on immune responses to pathogenic fungi. In this sense, he has published a wide production of specialized articles in areas such as viral elimination and evolution of SARS-CoV-2, differentiation of functional airway microfold cells or epithelial defects of the respiratory tract associated with the TAT3 mutation in Job’s Syndrome. On the other hand, he has been in charge of leading multiple research projects focused on infectious conditions and innovative treatments. Likewise, he has contributed significantly to the understanding and management of several contagious bacterial diseases.

In his commitment to clinical excellence, he regularly participates in the most renowned scientific congresses and medical symposia worldwide. He shares his extensive experience and knowledge on subjects such as antibiotic resistance, the adaptation mechanisms of pathogenic fungi or the most cutting-edge therapies to combat different viral infections. Thanks to this, Dr. Jatin Vyas has contributed cutting-edge strategies to raise awareness of these conditions in both the healthcare community and society at large.



Dr. Vyas, Jatin

- ♦ Director of Internal Medicine at Massachusetts General Hospital, United States
- ♦ Researcher funded by the National Institutes of Health of the United States Government.
- ♦ Research Fellow in Interventional Pain Management at the University of Iowa
- ♦ Research Fellow in Chemistry at the Welch Foundation, California.
- ♦ Residency in Anesthesiology at Case Western Reserve University, Cleveland, Ohio
- ♦ Doctorate in Medicine, University of Arkansas
- ♦ Bachelor of Science in Forensic Science
- ♦ Board Certification in Infectious Diseases by the American Board of Internal Medicine
- ♦ Board Certification in Internal Medicine by the American Board of Internal Medicine



Thanks to TECH, you will be able to learn with the best professionals in the world"

04

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.



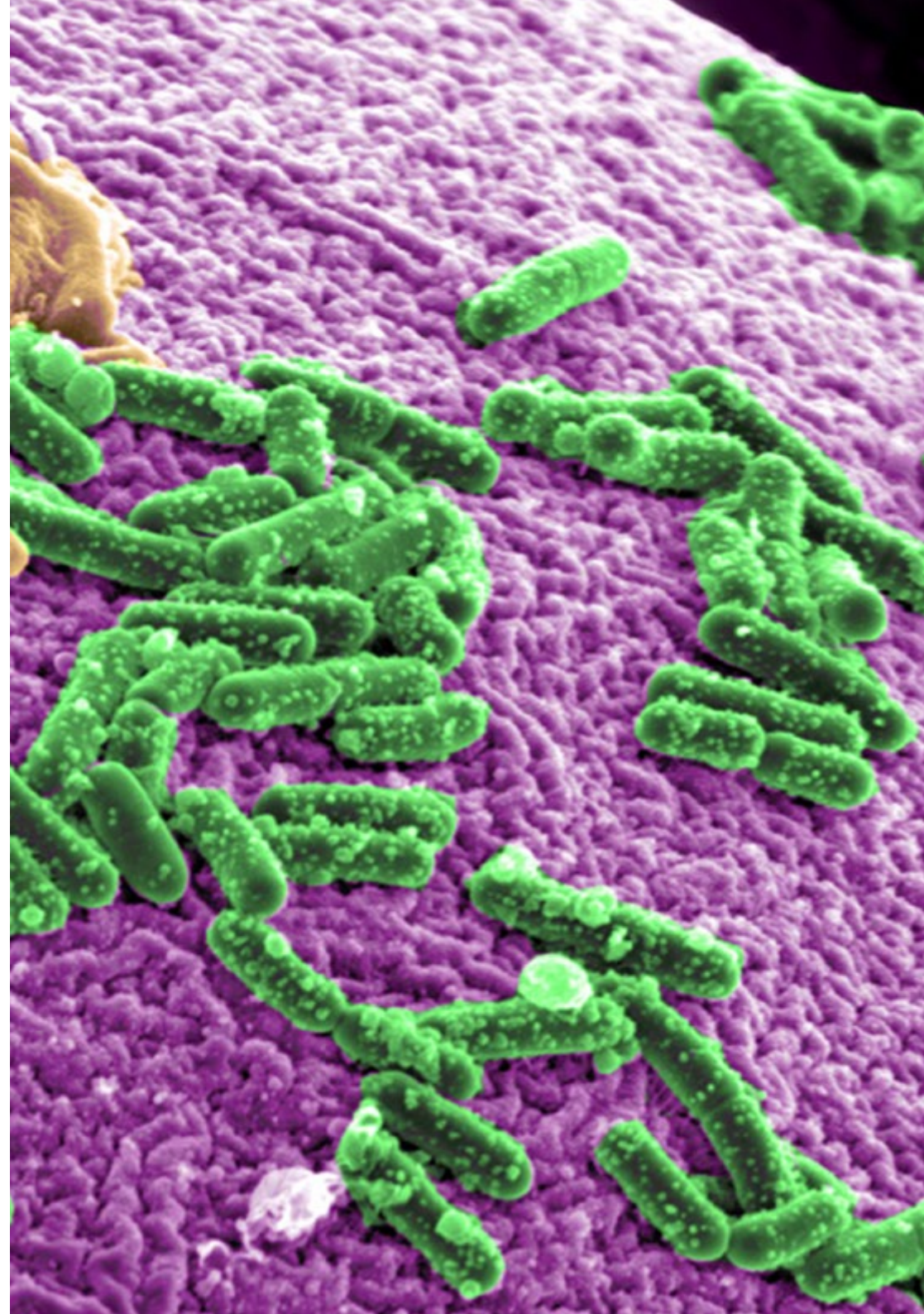


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This Postgraduate Certificate in The Clinical Method and Scientific Research in Infectious Diseases contains the most complete and up-to-date scientific program on the market"

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 Infectious Diseases
 - 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. Scientific Research Protocol
 - 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 and 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



A unique, key, and decisive educational experience to boost your professional development”

05 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

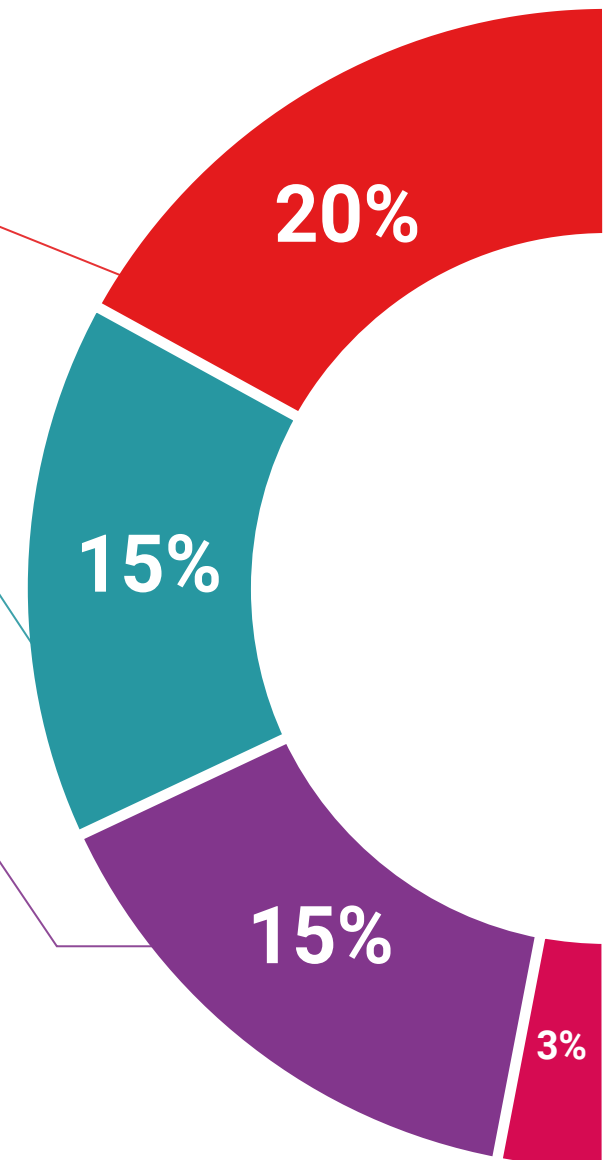
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

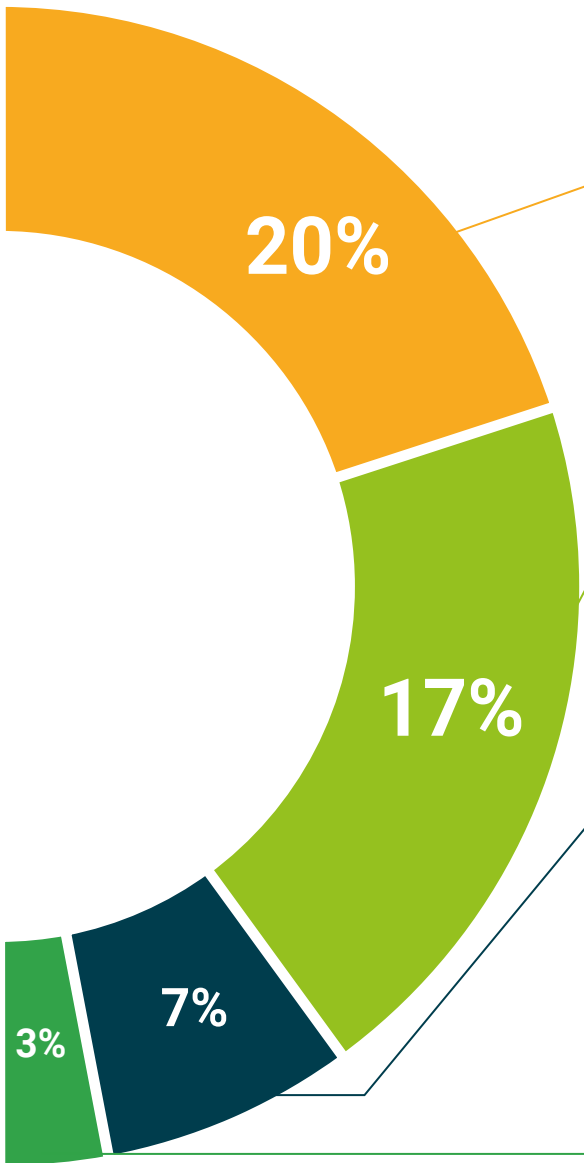
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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.



06

Certificate

The Postgraduate Certificate in The Clinical Method and Scientific Research in Infectious Diseases guarantees students, in addition to the most rigorous and up-to-date education, access to a qualification issued by TECH Global University.





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

This program will allow you to obtain your **Postgraduate Certificate in The Clinical Method and Scientific Research in Infectious Diseases** endorsed by **TECH Global University**, the world's largest online university.

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

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

Title: **Postgraduate Certificate in The Clinical Method and Scientific Research in Infectious Diseases**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service innovation

knowledge present quality

online

development languages

virtual classroom

tech global
university

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