

Postgraduate Certificate

Diagnosis of mycobacterial infection





Postgraduate Certificate Diagnosis of mycobacterial infection

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

Website: www.techtute.com/in/medicine/postgraduate-certificate/diagnosis-mycobacterial-infection

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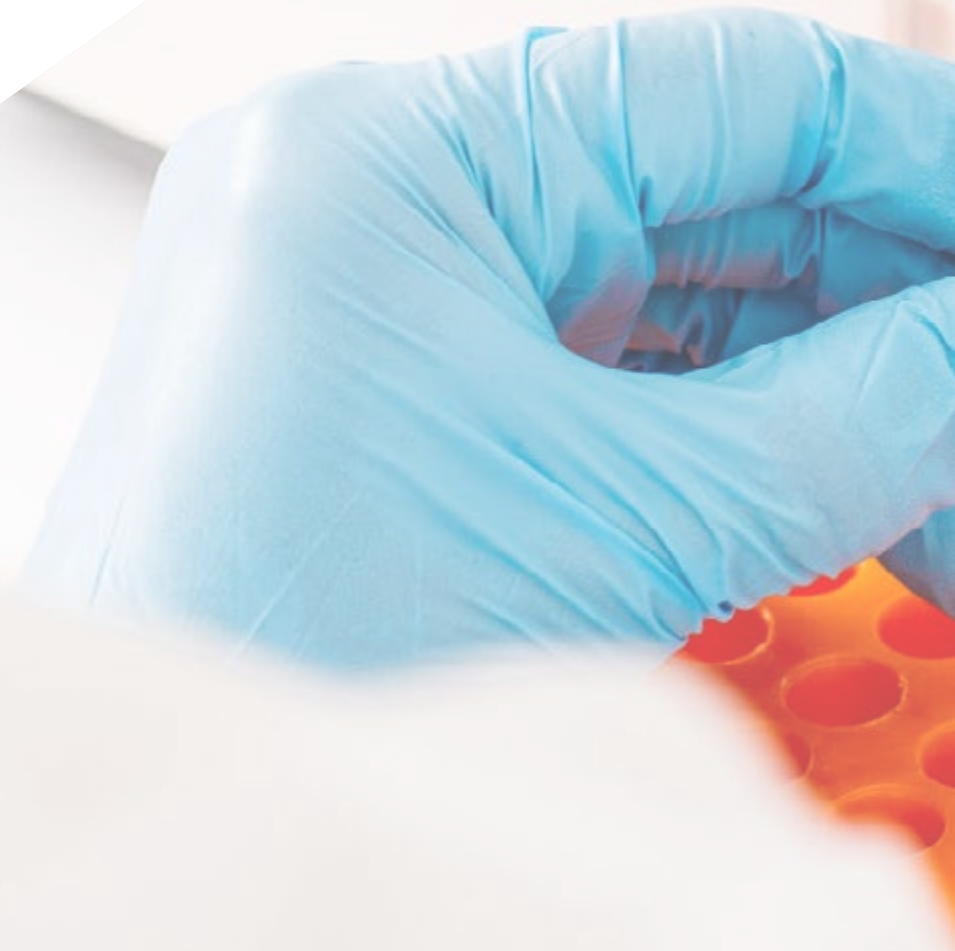
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01

Introduction

Mycobacterial infections can lead to pulmonary, cutaneous or lymphatic system comorbidities, among others, which is why a quick and accurate diagnosis is essential to avoid a worsening of the patient's health. For this reason, the specialist must know in detail the latest scientific advances related to the strategies and techniques to obtain a greater diagnostic profitability at the time of having a clinical suspicion of this type. Something that can work with this program, designed by experts in Microbiology with the aim that the graduate can update their knowledge in a comprehensive manner in just 6 weeks. All this through a 100% online program with which you will be able , to combine to perfection the activity of your practice with a highly capacitating educational experience.



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From clinical suspicion to diagnostic imaging, this Postgraduate Certificate will bring you up to date on everything related to the identification of mycobacterial infection"

Tuberculosis, leprosy or atypical infections are mycobacterial pathologies; they are diseases that can cause very serious comorbidities and even death, which is why an early and accurate diagnosis as soon as there is clinical suspicion is essential. To this end, the specialist must not only master the collection of samples for greater diagnostic profitability, but must also know in detail the latest developments related to the most recommended tests, such as tuberculin or those based on the release of interferon gamma.

Given the importance of this knowledge, TECH has developed this Postgraduate Certificate in Diagnosis of Mycobacterial Infection, a complete and comprehensive scientific program that addresses precisely this issue, from its origin to the latest and most effective phenotypic and molecular identification techniques. The aim is to provide the graduate with a degree that will help him/her to get up to date on clinical strategies based on microscopy, culture and other methods, as well as on their advantages and disadvantages.

All this, through a 100% online degree distributed over 150 hours and developed in 6 weeks, which, in addition to the best syllabus, includes additional material in different formats so that the specialist can, on the one hand, contextualize the information and, secondly, deepen those aspects that are of greatest interest. All the content will be available from the beginning of the academic experience, which will allow you to organize the teaching calendar according to your own time availability and that of your practice.

This **Postgraduate Certificate in Diagnosis of Mycobacterial Infection** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ The development of practical cases presented by experts in Medicine and Microbiology
- ◆ 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



You will learn more about the tuberculin test, as well as its advantages and disadvantages, perfecting your diagnostic technique through the Booster effect"

“

You will learn the different ways to visualize acid-fast bacilli with different stains, as well as the steps to follow in the culture of these microorganisms”

The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its 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 an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

A 100% online degree that will bring you up to date on IGRA diagnosis in patients with mycobacterial infections.

A Postgraduate Certificate designed by experts in Microbiology that will help you update your knowledge in just 6 weeks.



02 Objectives

The increase in recent months of patients with infections caused by mycobacteria is what has motivated TECH to develop the Postgraduate Certificate. Therefore, the objective of the course is to provide the graduate with the most innovative and effective academic tools that will allow them to be updated, in just 6 weeks, on everything related to the early diagnosis of pathologies caused by these germs.





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You will be able to deepen in other diagnostic methods such as chromatographic identification and immunochromatography, with special emphasis on the application of techniques based on proteomics using MALDI-TOF”



General Objectives

- ◆ Provide the specialist with the most effective academic tools that will allow him/her to be updated on the most novel aspects of mycobacterial infection diagnosis
- ◆ Perfect the graduate's culture and microcopy skills through the resolution of clinical cases extracted from real and current consultations

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Whatever your goals are, with TECH you will be able to achieve them thanks to the quality and quantity of academic material you will find in the Virtual Classroom"





Specific Objectives

- ◆ Become deeply familiar with the most appropriate types of samples and methods of obtaining them in the laboratory
- ◆ Gain a deep understanding of the advantages and disadvantages of the main diagnostic methods so as to optimize diagnoses
- ◆ Know when and where (cultures, clinical samples) molecular biology techniques can be used to diagnose mycobacterial infections
- ◆ Know the other diagnostic techniques used, such as proteomics or diagnostic imaging

03

Course Management

Both the direction and the teaching of this Postgraduate Certificate are the responsibility of a team of specialists in Microbiology with an extensive and long career in the clinical management of patients with conditions caused by mycobacteria. It is also a team of experts who are currently working in reference centers of the national territory, so they know in detail the immediate news, as well as the latest and most effective techniques, protocols and treatment strategies, which will be reflected in the syllabus.



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Have the possibility of individualized and online tutorials with the teaching team to resolve any questions you may have about the syllabus or to discuss any clinical case in which you have doubts"

Management



Dr. Sánchez Romero, María Isabel

- ◆ Area Specialist in the Microbiology Department of the Puerta de Hierro Majadahonda University Hospital, Madrid
- ◆ PhD in Medicine and Surgery from the University of Salamanca
- ◆ Medical Specialist in Clinical Microbiology and Parasitology
- ◆ Member of the Spanish Society of Infectious Diseases and Clinical Microbiology
- ◆ Technical Secretary of the Madrid Society of Clinical Microbiology

Professors

Dr. Alarcón Cavero, Teresa

- ◆ Biologist Specialist in Microbiology, Princesa University Hospital
- ◆ Head of Group 52 of the Research Institute of the La Princesa Hospital
- ◆ Degree in Biological Sciences with a major in Fundamental Biology from the Complutense University of Madrid
- ◆ Master's Degree in Medical Microbiology from the Complutense University of Madrid

Dr. García, Diego Domingo

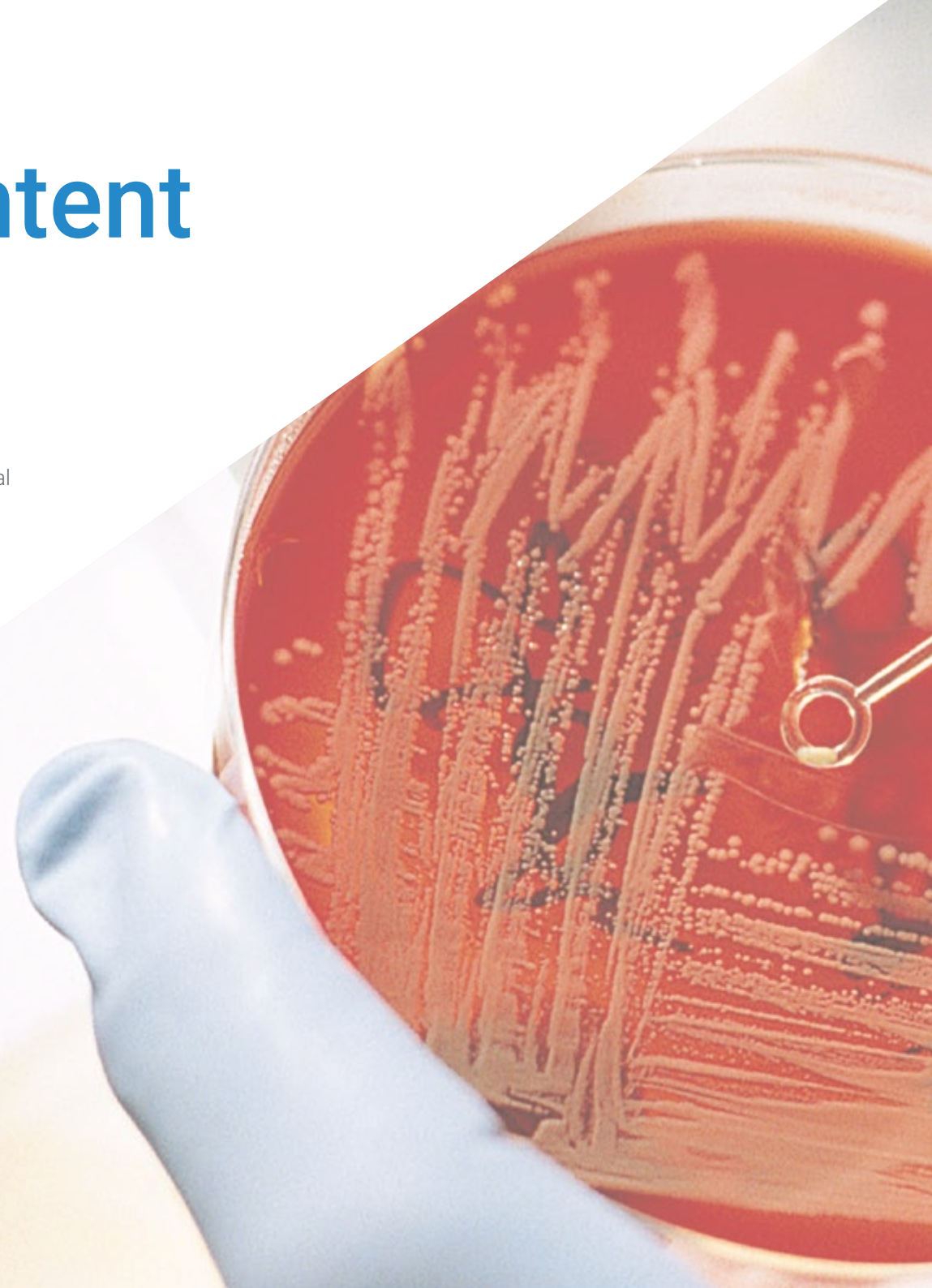
- ◆ Specialist in Microbiology and Parasitology
- ◆ Area Specialist in the Microbiology Department La Princesa University Hospital Madrid
- ◆ Teaching Collaboration Autonomous University of Madrid
- ◆ Doctorate in Microbiology and Parasitology, Faculty of Pharmacy, Complutense University of Madrid
- ◆ Graduate in Pharmacy. Complutense University of Madrid



04

Structure and Content

Elaborating this Postgraduate Certificate has been a real challenge for TECH and its team of experts, who, despite being versed in Microbiology, have had to carry out an exhaustive research task to shape a complete, comprehensive, updated and adapted to the pedagogical criteria that define and differentiate this University. In addition, with an emphasis on the multidisciplinary factor that characterizes all the qualifications of this center, they have also included in their content hours of additional material in audiovisual format, research articles, dynamic summaries and complementary readings so that the graduate can take full advantage of this academic experience and delve into the most relevant aspects of the syllabus for their professional performance.

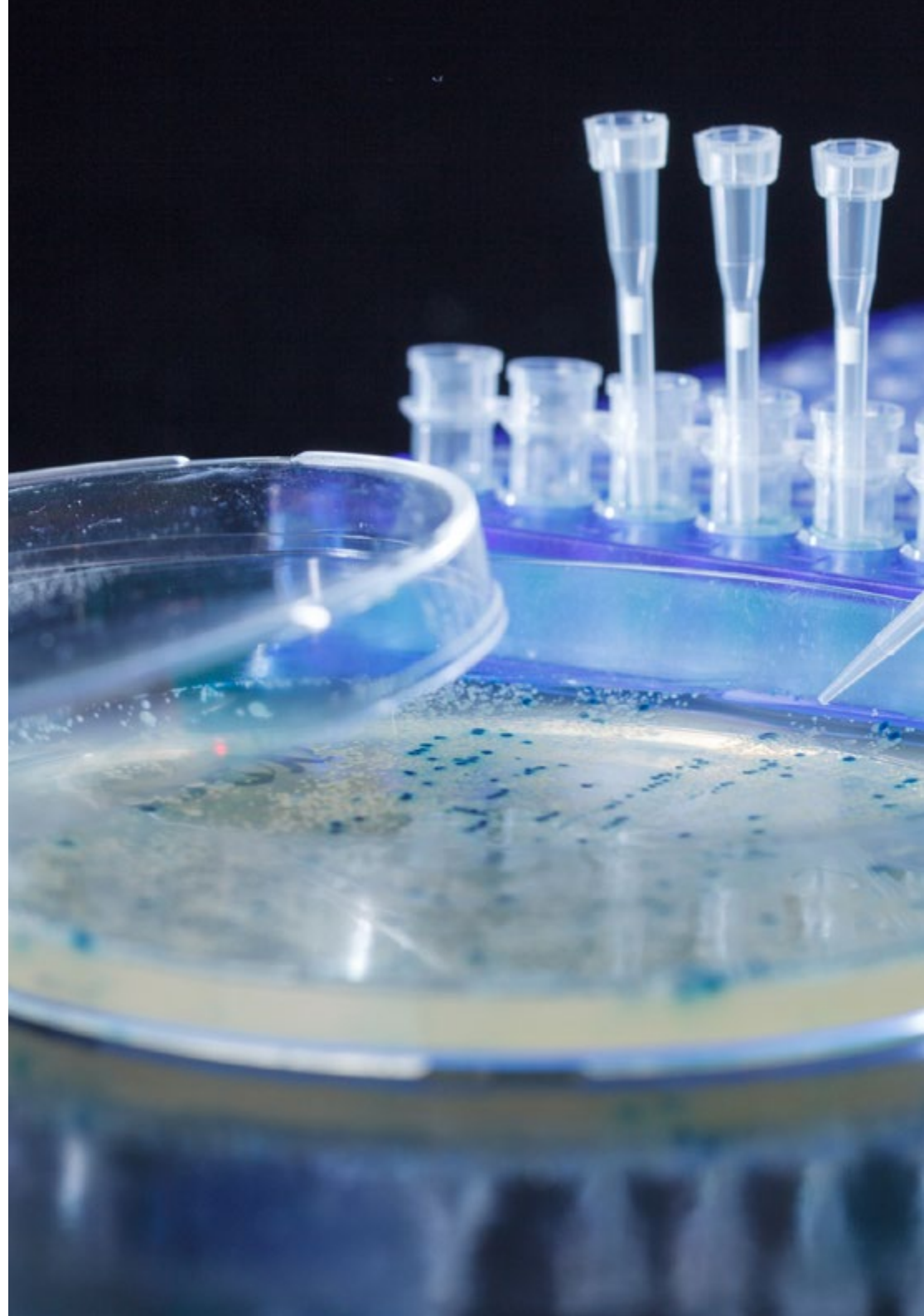


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You will be able to access the Virtual Classroom 24 hours a day from any device with an Internet connection, so you can take this educational experience totally personalized way can"

Module 1. Mycobacterial Infection Diagnosis

- 1.1. Clinical Suspicion
 - 1.1.1. Sample Collection
- 1.2. Tuberculin Test
 - 1.2.1. Booster Effect
 - 1.2.2. Inconveniences
- 1.3. Diagnosis by IGRA
 - 1.3.1. Commercial Systems
 - 1.3.2. Advantages and Disadvantages
- 1.4. Microscopy
 - 1.4.1. Conventional Stains
 - 1.4.2. Stains for Fluorescence Microscopy
- 1.5. Culture
 - 1.5.1. Pretreatment Phase
 - 1.5.2. Cultivation in Solid Media
 - 1.5.3. Cultivation in Liquid Media
 - 1.5.4. Cultures in Automated Systems
- 1.6. Phenotypic Identification Techniques
 - 1.6.1. Microscopy and Morphology
 - 1.6.2. Biochemical Tests
- 1.7. Molecular Identification Techniques
 - 1.7.1. Types
 - 1.7.2. On Direct Sampling
 - 1.7.3. On Colony Grown in Cultures
- 1.8. Others Diagnostic Methods
 - 1.8.1. Chromatographic Identification
 - 1.8.2. Immunochromatography
- 1.9. MALDI-TOF in Mycobacteria Identification
- 1.10. Diagnostic Imaging





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Enroll now in this Postgraduate Certificate and become part of an International Medical Community”

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 Diagnosis of mycobacterial infection guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This **Postgraduate Certificate in Diagnosis of Mycobacterial Infection** 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 Certificate** issued by **TECH Technological University** via tracked delivery*.

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

Title: **Postgraduate Certificate in Diagnosis of Mycobacterial Infection**

Official N° of Hours: **150 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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