

# Postgraduate Certificate

## Medication and Treatments for Mycobacterial Infections





## Postgraduate Certificate Medication and Treatments for Mycobacterial Infections

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

Website: [www.techtute.com/us/medicine/postgraduate-certificate/medication-treatments-mycobacterial-infections](http://www.techtute.com/us/medicine/postgraduate-certificate/medication-treatments-mycobacterial-infections)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

---

*p. 28*

# 01

# Introduction

The complexity in the exhaustive control of drugs and treatment guidelines used in the clinical management of patients affected by mycobacterial infections is very high. To master this aspect, the specialist must have thoroughly identified the germ populations that are involved, which is essential to be able to establish the appropriate therapeutic guidelines. With this Postgraduate Certificate designed by experts in Medicine and Microbiology, the graduate will be able to catch up on the scientific advances that have been made in this field, being able not only to update their knowledge, but also to perfect their professional skills in the treatment of this type of patients. In addition, thanks to its convenient 100% online format, you will be able to take this degree without neglecting your schedule or that of your practice.





“

*A perfect program to bring you up to date on the antibacterial therapeutic arsenal that pharmaceutical companies have developed in recent years”*

Mycobacteria are the cause of a myriad of infectious diseases that can seriously affect patient health. For this reason, early disruptive treatment and elimination of these pathogens is essential to prevent possible worsening or the appearance of associated complications. However, mastering the Medication and therapeutic treatments to be applied in each case requires an exhaustive knowledge, not only of their specifications, but also of the characteristics of the germ and the patient's own condition.

That is why TECH has developed this Postgraduate Certificate in Medication and Treatments Used in Mycobacterial Infections, a program that will guide the specialist in its update, through the provision of the best and most complete syllabus designed by experts in Medicine and Microbiology. It is a degree that delves into the scientific advances related to the main bactericidal, sterilizing and second-line antibiotics, as well as the most effective and innovative treatment guidelines. In addition, it also delves into the relevance of sensitivity studies in mycobacteria in liquid media and by molecular techniques.

A 100% online program adapted to the immediate current situation of the sector and designed with the aim of providing the specialist with the most modern and effective teaching methodology in the university sector. Likewise, you will have hours of additional material with which you will be able to deepen in each aspect of the syllabus and obtain a personalized knowledge tailored to your needs.

This **Postgraduate Certificate in Medication and Treatments for Mycobacterial Infections** 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



*The Postgraduate Certificate begins with an in-depth analysis of the main bacterial populations to be treated, so that you can review the types that exist and their most frequent infections"*

“ *A Postgraduate Certificate that will bring you up to date on the advantages and disadvantages of the use of sterilizing and second-line antibiotics in the clinical management of patients with mycobacterial infections*”

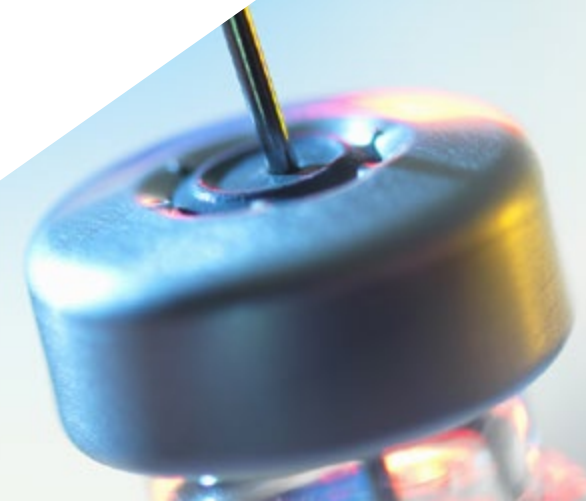
The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

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.

*You will be able to deepen in the current recommendations for the application of bactericide antibiotics such as Isoniazid, Rifampicin, Ethambutol or Streptomycin.*

*In the Virtual Classroom you will find real clinical cases in which you will be able to observe in a practical way the application of these treatments and the evolution of the patient.*



# 02 Objectives

Given the importance and latency of mycobacterial infections nowadays, this Postgraduate Certificate has been designed as a guide for graduates to update their knowledge on everything related to drugs and treatments used in the management of these patients. Thus, they will be able to know in detail the advantages and disadvantages of new antibiotics such as Linezolid or Levofloxacin, among others, as well as their therapeutic recommendation according to the type of clinical cases.







“

*If your goal is to gain in-depth knowledge about new antibiotics such as Linezolid or Levofloxacin, this program is perfect for you"*



## General Objectives

---

- Provide the specialist with the most effective academic tools that will allow them to be updated on the latest aspects of the use of drugs in the treatment of infections caused by mycobacteria
- Have in-depth knowledge of the most prevalent antibiotic resistances and understand the repercussions they may have when prescribing different treatments



*Update your personal vademecum with TECH and this complete program"*





## Specific Objectives

---

- ◆ Recognize the different populations to be treated in tuberculosis infection in order to design treatments with the appropriate drugs
- ◆ Become deeply familiar with the spectrum of action, posology and most important adverse effects of the medications used in various treatments for these bacterial infections
- ◆ Know the new antibiotics available whose spectrum of action includes mycobacteria and can offer alternatives in infections caused by resistant mycobacteria
- ◆ Have in-depth knowledge of the most prevalent antibiotic resistances and understand the repercussions they may have when prescribing different treatments

# 03

## Course Management

For the teaching of this Postgraduate Certificate, TECH has selected a team of experts in Medicine specialized in the area of Microbiology. They are teachers with a very high professional and human quality, backed by an extensive career in the clinical management of patients with infections caused by mycobacteria. In addition, as they are practicing physicians, they know in detail the latest therapeutic guidelines, an aspect that will be reflected in the critical, current and highly dynamic nature of the syllabus.



“

*Microbiology experts will be at your disposal to answer any questions you may have during the course of this academic experience"*

## 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. Zamarrón Fuertes, Pilar

- ♦ Area Medical Specialist in charge of the Department of Multiresistant Bacteria and Antibiotic Resistance in the Microbiology Department of the Virgen de la Salud Hospital in Toledo
- ♦ Fellowship in the Tropical Medicine Unit of the Ramón y Cajal Hospital
- ♦ Medical Specialist in Microbiology at the Montepíncipe Hospital
- ♦ Medical Specialist in Microbiology at the Mérida Hospital
- ♦ Doctorate in Medicine and Surgery, University of Alcalá
- ♦ Degree in Medicine and Surgery from the Complutense University of Madrid
- ♦ Resident Medical Intern in Microbiology and Parasitology at the Ramón y Cajal Hospital



# 04

## Structure and Content

TECH is a pioneer worldwide in the use, in this and all its degrees, of the Relearning methodology, an innovative pedagogical strategy that combines the reiteration of concepts with the practical resolution of simulations of real clinical cases. Thanks to this, the graduate who accesses this Postgraduate Certificate will attend a natural and progressive updating of their knowledge, without the need to invest long and tedious hours in studying and memorizing. A dynamic way to reduce the teaching load without sacrificing the quality and completeness of its content.





A close-up photograph of a person's open palm holding a large assortment of various pills and capsules. The pills are in many colors including white, yellow, pink, orange, and light green. Some are round, some are oval, and some are capsules. The background is a dark blue gradient.

“

*In the Virtual Classroom you will find additional high-quality material so that you can go deeper into the aspects of the syllabus that you consider most relevant and/or interests"*

## Module 1. Medication and Treatments for mycobacteria Infections

- 1.1. Bacterial Populations to be Treated
- 1.2. Bactericidal Antibiotics
  - 1.2.1. Isoniazid
  - 1.2.2. Rifampicin
  - 1.2.3. Ethambutol
  - 1.2.4. Streptomycin
- 1.3. Sterilizing Antibiotics
  - 1.3.1. Pyrazinamide
  - 1.3.2. Rifampicin
- 1.4. Second-Line Antibiotics
  - 1.4.1. Aminoglycosides
  - 1.4.2. Fluoroquinolones
  - 1.4.3. PAS
- 1.5. New Antibiotics
  - 1.5.1. Linezolid
  - 1.5.2. Levofloxacin
  - 1.5.3. Others
- 1.6. Treatment Guidelines
  - 1.6.1. Tuberculous Infections
  - 1.6.2. Infections from Other Mycobacteria
- 1.7. Sensitivity Studies in Mycobacteria
  - 1.7.1. Indications
  - 1.7.2. Proportion Technique
- 1.8. Sensitivity Studies in Liquid Media
- 1.9. Sensitivity Studies using Molecular Techniques
- 1.10. Antibiotic Resistance and its Impact on Treating Mycobacterial Infections





“

*Access this 100% online degree and update your knowledge from wherever you are with TECH and its complete Postgraduate Certificate in Medication and Treatments Used for Mycobacterial Infections”*

# 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.



“

*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.

“

*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 Medication and Treatments Used for Mycobacterial Infections 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 Medication and Treatments for Mycobacterial 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 Certificate** issued by **TECH Technological University** via tracked delivery\*.

The diploma 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 Medication and Treatments for Mycobacterial Infections**

Official Number N.º Hours: **150 h.**



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

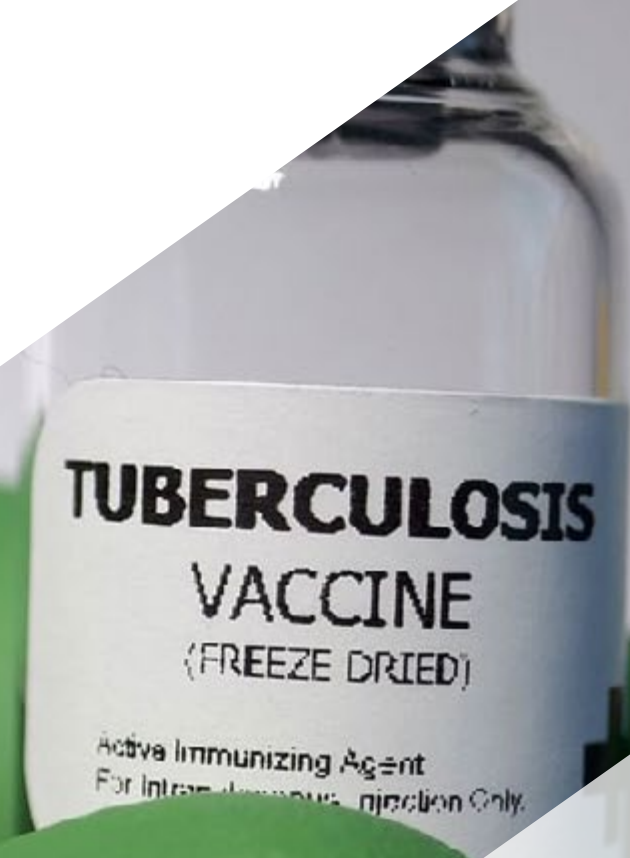


**Postgraduate Certificate**  
Medication and Treatments  
for Mycobacterial Infections

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

# Postgraduate Certificate

## Medication and Treatments for Mycobacterial Infections



**TUBERCULOSIS  
VACCINE  
(FREEZE DRIED)**

Active Immunizing Agent  
For Intramuscular Injection Only.