

# Postgraduate Diploma

## Antibiotic Therapy





## Postgraduate Diploma Antibiotic Therapy

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-antibiotic-therapy](http://www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-antibiotic-therapy)

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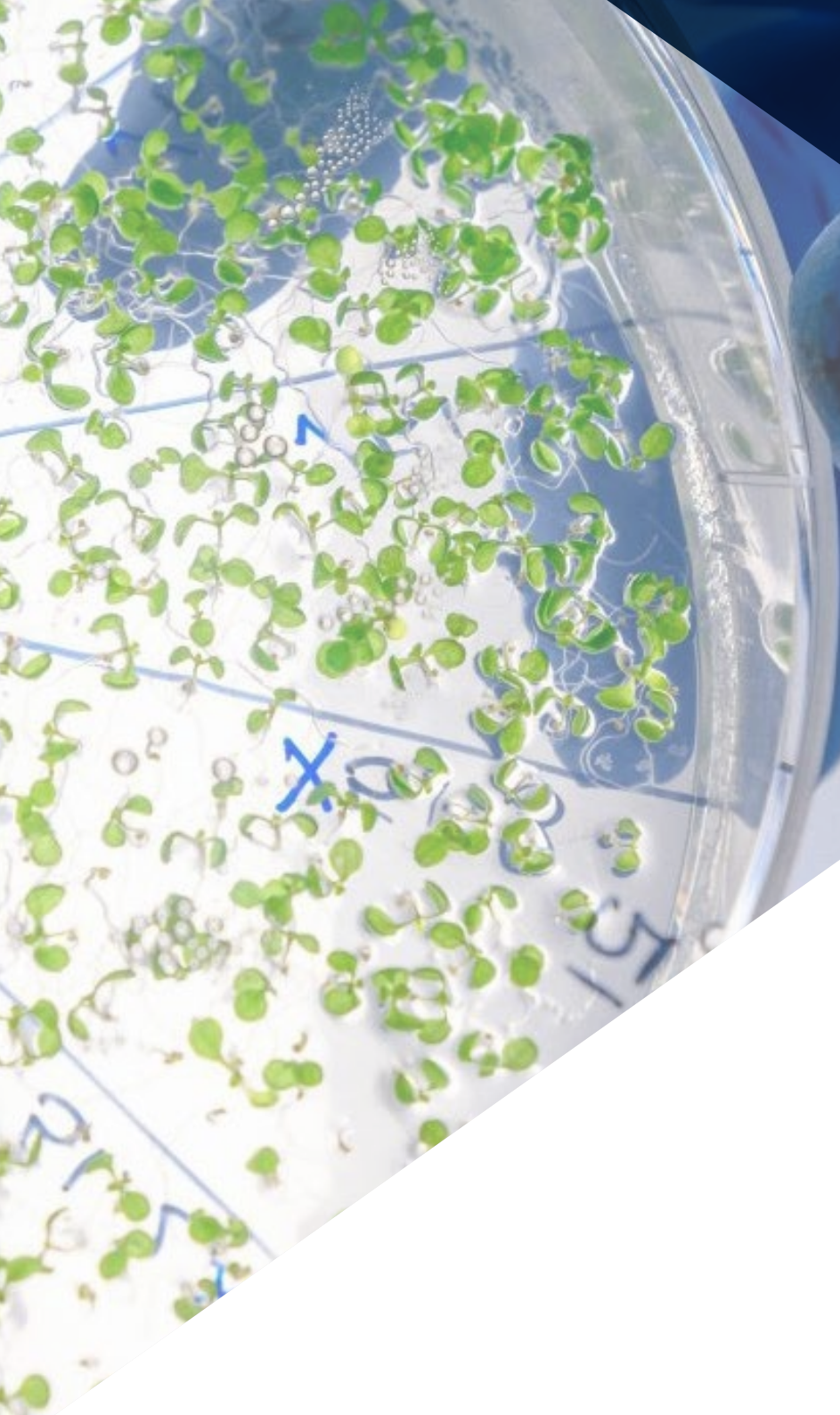
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# 01

# Introduction

The use of therapies using intravenous antibiotics as a medium to long-term treatment for certain pathologies is becoming more frequent and effective due to the advances that have been made in antibiotic therapy. As a result, it has been possible to work extensively on the clinical management and prevention of many infections, for example, those that can arise after surgery. For this reason, specialists in this field must be constantly updating their knowledge, in order to always offer the most austere and complete service based on the latest scientific evidence in medicine. Precisely for this reason, this program is perfect for them, since in only 6 months they will be able to catch up on the latest advances in the sector 100% online.





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*Are you looking for a program that will allow you to update you on the latest developments in Antibiotic Therapy in an austere, comfortable way, adapted to your needs? TECH has precisely the right educational program for you"*

Recent studies carried out in relation to the application of intravenous antibiotics for preventive or therapeutic treatment of certain pathologies and the favorable results obtained have made this technique one of the main techniques to be used in cases of particularly serious infections or for prevention after surgery. In this way, we work to prevent a worsening of the patient's health caused by sepsis, meningitis or other types of abscesses that can seriously affect different parts of the body.

In order for the graduate to be up to date with the latest developments in this specialty and to know in detail the advances that have been made in terms of pharmacology and clinical intervention strategies, TECH has developed the Postgraduate Diploma in Antibiotic Therapy, a comprehensive, dynamic and multidisciplinary program that includes 450 hours of the best and most up-to-date information. Through the syllabus, the specialist will be able to delve into the advances in this branch of medicine, as well as the rational use of antibiotics and the different aspects of antimicrobial resistance.

All this over 6 months, in which you can access the Virtual Classroom whenever you need it and from any device with internet connection thanks to the convenient 100% online format in which this program has been designed. In addition to the theoretical content, you will find hours of high-quality additional material including: self-knowledge exercises, complementary readings, research articles, detailed videos, dynamic summaries and real clinical cases. Everything you will need to delve, in a personalized way, into the aspects you consider most relevant for your own update.

This **Postgraduate Diploma in Antibiotic Therapy** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ Clinical cases presented by experts 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
- ♦ Practical exercises where the self-assessment process can be carried out 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 opportunity you were waiting for to update your knowledge based on the most modern Antibiotic Therapy is before you. Don't let it pass you by"*

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*This is the perfect program to delve into new developments related to the use of antimicrobials in special host situations 100% online"*

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.

The 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 immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*The best syllabus, the most varied additional content and the possibility of accessing it whenever you want and wherever you are. Do you need anything else to get up to date?.*

*A Postgraduate Diploma that delves into the pros and cons of antimicrobial combinations through the latest and most austere information.*

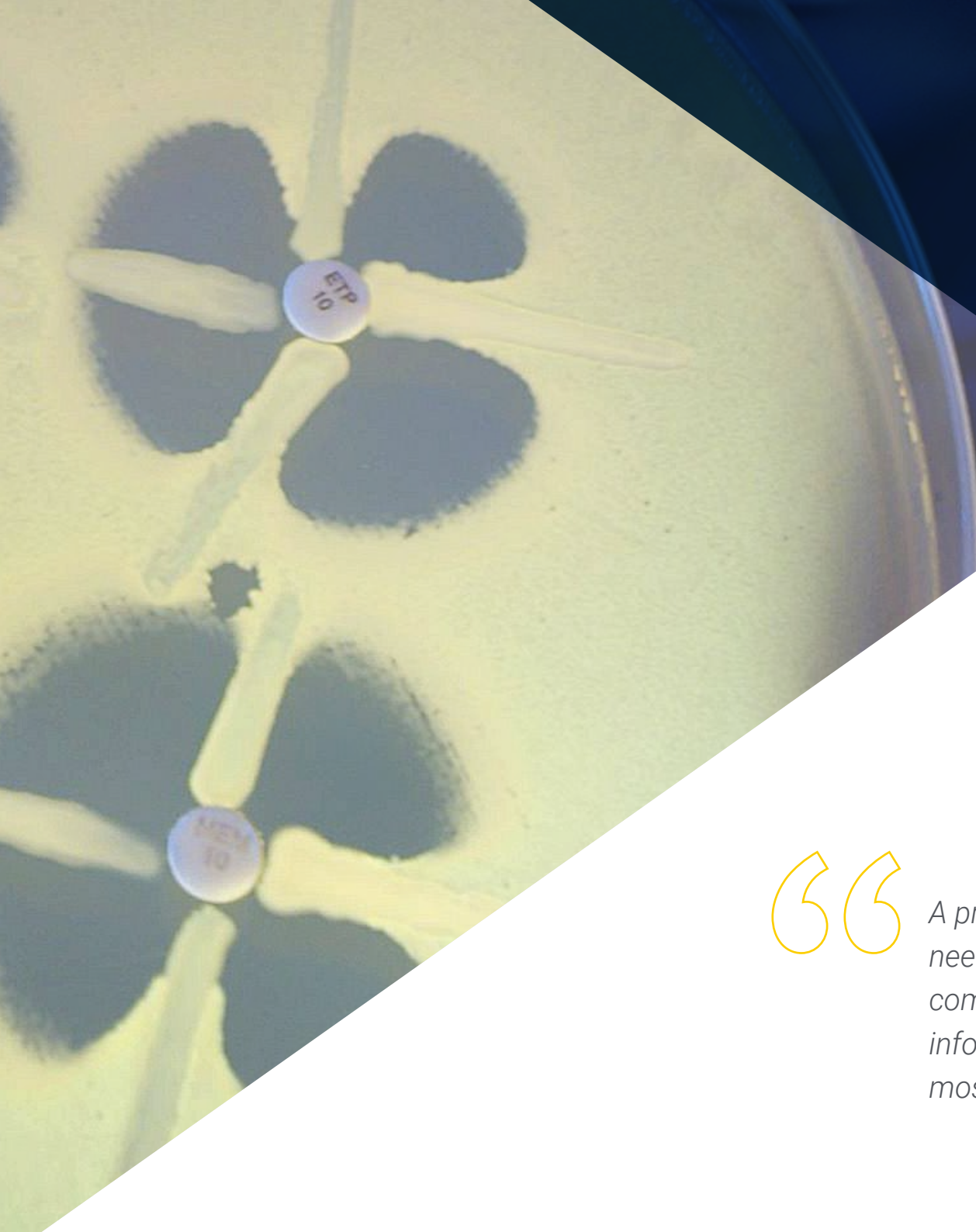


# 02 Objectives

The development of this program has arisen from the need, on the part of medical specialists, to have a program that allows them to be updated on the latest developments in Antibiotic Therapy in a manner adapted to their specifications. Therefore, the objective is to provide these professionals with the most austere and innovative information through an academic experience that they can perfectly combine with the activity of their practice.







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*A program designed based on the academic needs of professionals like you, which combines the most complete and up-to-date information on Antibiotic Therapy with the most innovative academic tools"*



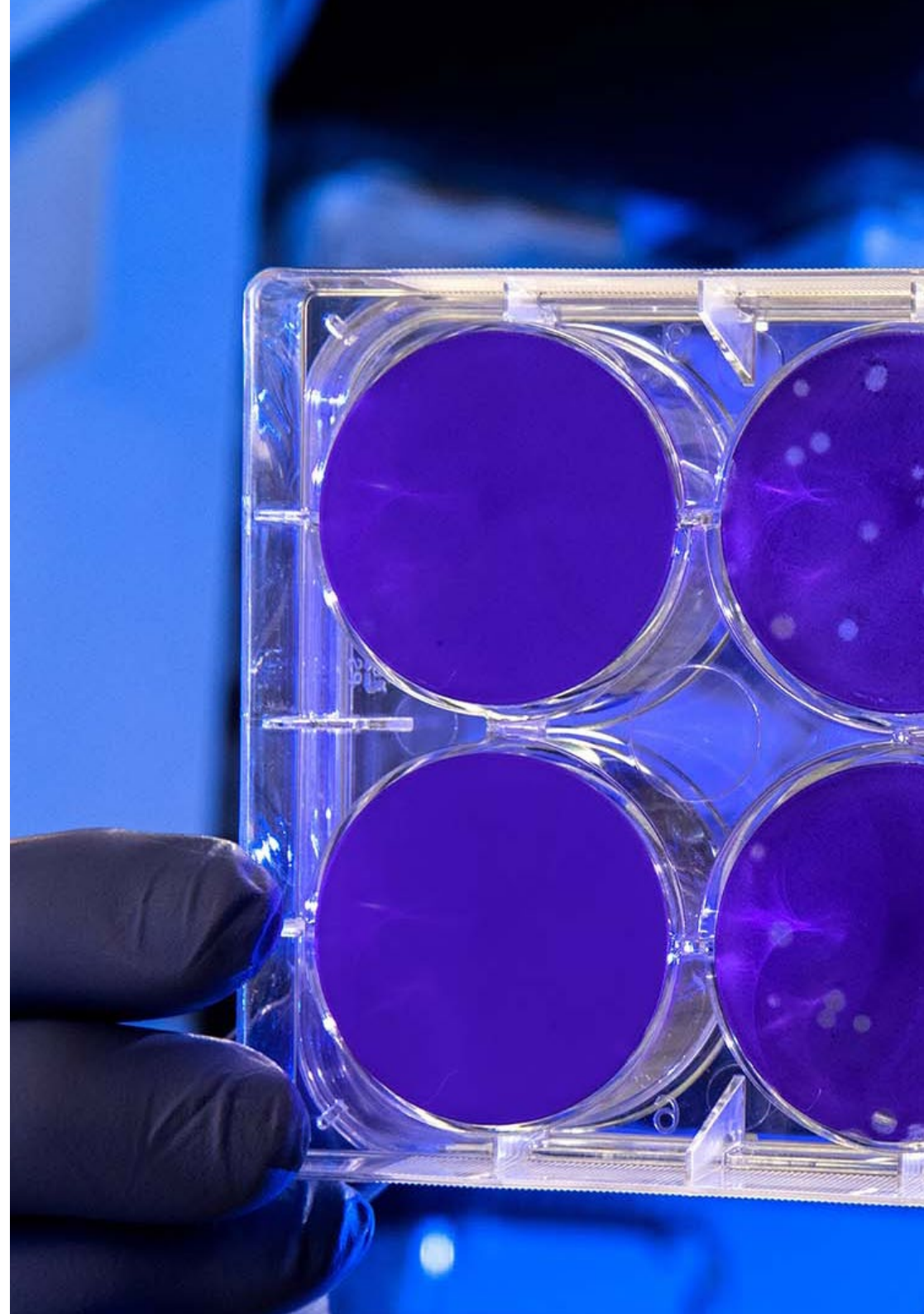
## General Objectives

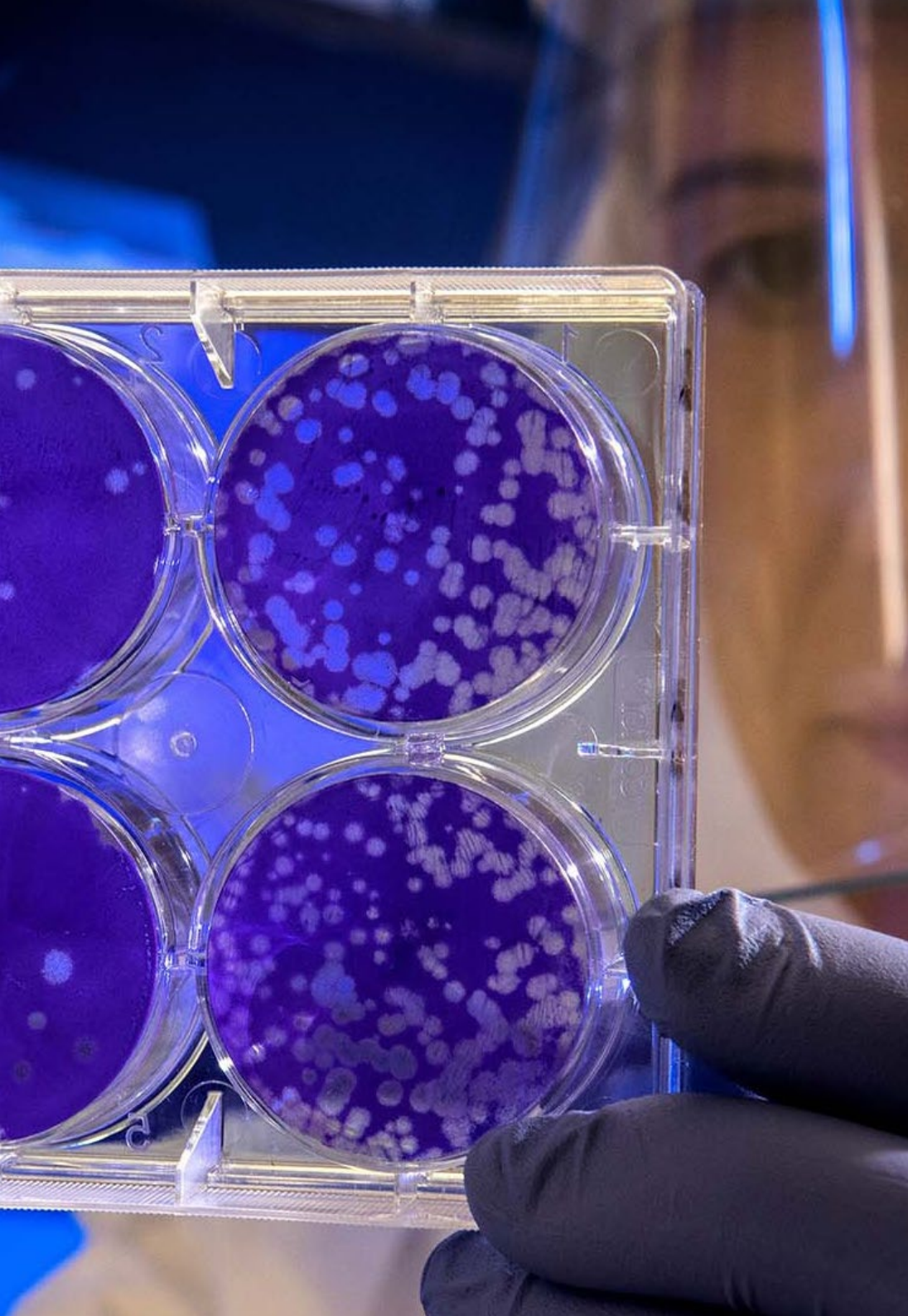
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- Provide the graduates with the latest information that will allow them to be exhaustively updated on the latest developments in Antibiotic Therapy
- Provide the specialists with the most innovative academic tools that will allow them to update their knowledge easily, quickly and comfortably



*Whatever your goals are, with this Postgraduate Diploma from TECH, you will be able to achieve them with guaranteed success in less time than you expect"*





## Specific Objectives

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### Module 1. Advances in Antibiotic Therapy

- ♦ Identify new developments in the management of new antibiotics
- ♦ Define and describe diagnostic and therapeutic methods in infectious pathology
- ♦ Identify and classify the different types of infections that commonly occur in the community
- ♦ Differentiate between the management of viral and bacterial infections in light of the latest advances in treatment of choice

### Module 2. Responsible Antibiotic Use

- ♦ Convey the responsibility of the clinician in prescribing antibiotic treatment and its consequences
- ♦ Sensitize the physician to the rational use of medication and its long-term consequences for the patient and the community

### Module 3. Antimicrobial Resistance

- ♦ To raise the crucial issue of super-resistant microbes and their relationship to the use of antimicrobials
- ♦ Highlighting the development of vaccines for new diseases
- ♦ Emphasise the development of future antibiotics and other therapeutic modalities for infectious diseases
- ♦ Explain the clinical, diagnostic and treatment elements of rare or uncommon infectious diseases
- ♦ Emphasise the future challenges of infectious diseases in reducing infectious morbidity and mortality

# 03

# Course Management

TECH has selected for the faculty of this program a team versed in the study and clinical management of patients with Infectious Diseases, so they know in detail the theoretical and practical developments of Antibiotic Therapy. It is a group of professionals characterized, in addition, by their human quality, who have invested hundreds of hours to design the best program in the academic market, thanks to which the graduates will be able to get up to date in an austere, fast and comfortable way, with the security and guarantee that they will be working with real experts in the sector.





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*You will have the possibility of requesting individualized tutorials with the teaching staff, so that you can resolve any doubts that may arise during this academic experience”*

## International Guest Director

A pioneer in the use of **CD8+ T Cells** as a therapeutic tool for various **Viral Infections**, Dr. Otto Yang is a prestigious **Physician** highly specialized in **Cellular Immunology**. In addition, he has led multiple **scientific research** projects that have laid the groundwork for the development of innovative therapies and even vaccines.

In this sense, he has worked in health institutions of international reference such as **UCLA Health** in California. In this way, his work has been focused on the creation and implementation of modern treatments to manage conditions related to **HIV, AIDS or cancer**. Thanks to this, he has driven advances in the design of personalized immunological treatments adapted to the specific needs of each patient. As a result, he has managed to optimize the **overall well-being** of numerous patients in the long term.

Moreover, he has been a key figure in the conduct of **clinical trials** related to **COVID-19**. As such, he has conducted a variety of comprehensive analyses to evaluate the effects of therapies such as **Remdesivir, Baricitinib** and even **Monoclonal Antibodies**. Such work has been essential to identify the most effective therapeutic options and improve informed clinical decision making on a global scale in the face of the SARS-CoV-2 outbreak.

Throughout its 40-year history, its clinical excellence has been rewarded on several occasions in the form of **awards**. An example of this is the award he received from the American Association of Immunologists for his **CAR-T therapies** for the treatment of **leukemias**. In his strong commitment to advancing healthcare, he has led a wide range of projects that have received more than 30 million dollars in funding. These achievements reflect his strategic leadership in generating cutting-edge solutions that bring tangible value to society.



## Dr. Yang, Otto

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- Chief of the Division of Infectious Diseases at UCLA Health in California, United States
- Founder and Chief Medical Officer of CDR3 Therapeutics, California
- Director of Scientific Research at AIDS Healthcare Foundation, Los Angeles, Los Angeles
- Research Scientist with over 170 published papers
- Scientific Director of Ozymia, Los Angeles
- HIV Physician at MCI-Cedar Junction, Massachusetts
- Infectious Diseases Internship at Harvard Medical School
- Internal Medicine Residency at Bellevue Hospital, New York
- M.D. from Brown University
- Member of: Board of Directors at California Applied Medicine and Frontida Electronic Health Records Software



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

## Management



### Dr. Díaz Pollán, Beatriz

- ◆ Faculty Specialist La Paz University Hospital
- ◆ Faculty Specialist at Hospital Clínico San Carlos
- ◆ Resident Physician in San Carlos Clinical Hospital
- ◆ Master's Degree in Clinical Medicine from the Rey Juan Carlos University
- ◆ Degree in Medicine and Surgery from the Autonomous University of Madrid
- ◆ Master's Degree in Infectious Diseases and Antimicrobial Treatment from CEU - Cardenal Herrera University
- ◆ Postgraduate Diploma in Community and Nosocomial Infections from CEU - Cardenal Herrera University
- ◆ Postgraduate Diploma in Chronic Infectious Diseases and Imported Infections from CEU - Cardenal Herrera University
- ◆ Postgraduate Diploma in Microbiological Diagnosis, Antimicrobial Treatment and Research in Infectious Pathology from CEU - Cardenal Herrera University

## Professors

### Dr. Arribas López, José Ramón

- ◆ Head of the Infectious Diseases and Clinical Microbiology Unit. La Paz University Hospital
- ◆ Coordinator of the High-Level Isolation Unit. La Paz University Hospital– Carlos III
- ◆ Member Interministerial Committee for the management of the Ebola crisis
- ◆ Head of the AIDS and Infectious Diseases research group at IdiPAZ
- ◆ Doctor of Medicine. Autonomous University of Madrid
- ◆ Degree in Medicine and Surgery. Complutense University of Madrid

### Dr. Ramos, Juan Carlos

- ◆ Doctor at La Paz University Hospital. Madrid
- ◆ Official Doctoral Programme in Medicine. University of Alcalá
- ◆ Degree in Medicine and Surgery. Complutense University of Madrid
- ◆ Master's Degree in Infectious Diseases in Intensive Care. University-Company Foundation Valencia
- ◆ Author of Several Scientific Publications



**Dr. Rico, Alicia**

- ♦ Specialist in the Microbiology and Parasitology Department at La Paz University Hospital
- ♦ Assistant and co-founder of the Infectious Diseases and Clinical Microbiology Unit at La Paz University Hospital
- ♦ Team Member of PROA (Programs of reinforcement, Orientation and Support)
- ♦ Teaching Collaborator of the Department of Medicine at UAM
- ♦ Member of the Infection and Policy Committee of La Paz University Hospital
- ♦ Member of SEIMC (the Spanish Society of Infectious Diseases and Clinical Microbiology)
- ♦ Participation in several research projects
- ♦ Degree in Medicine from the Complutense University of Madrid.
- ♦ Doctorate Courses at the Complutense University of Madrid

**Dr. Loeches Yagüe, María Belén**

- ♦ Specialist in the area of Infectious Diseases at La Paz General University Hospital
- ♦ Professor of Infectious Diseases at the Infanta Sofía University Hospital in Madrid European University of Madrid
- ♦ Doctor of Medicine. Autonomous University of Madrid
- ♦ Degree in Medicine. Complutense University of Madrid
- ♦ Master in Theoretical and Practical Learning in Infectious Diseases. Complutense University of Madrid
- ♦ Specialised Training in Microbiology and Infectious Diseases. Gregorio Marañón General University Hospital

**Dr. Mora Rillo, Marta**

- ♦ Specialist in the area of Infectious Diseases at La Paz University
- ♦ Clinical Teaching Collaborator in the Department of Medicine. Autonomous University of Madrid
- ♦ Doctor of Medicine. Autonomous University of Madrid
- ♦ Degree in Medicine and Surgery. University of Zaragoza
- ♦ Master's Degree in Infectious Diseases in Intensive Care. University of Valencia
- ♦ Online Masters in Infectious Diseases and Antimicrobial Treatment CEU Cardenal Herrera University
- ♦ Master's Degree in Tropical Medicine and International Health. Autonomous University of Madrid
- ♦ Expert in Emerging and High-Risk Virus Pathology. Autonomous University of Madrid
- ♦ Expert in Tropical Medicine. Autonomous University of Madrid

# 04

## Structure and Content

TECH uses the *Relearning* methodology in all of its programs, which is based on two fundamental pillars: on the one hand, the reiteration of the most important concepts throughout the syllabus and, on the other hand, the simulated resolution of real clinical cases related to the field of study. In this way, it is possible to offer an academic experience in which the graduates attend a natural and progressive updating of their knowledge, without the need to invest extra hours in memorizing. In addition, this educational strategy and its practical nature favor the permanence of the information for a much longer period of time.



A close-up photograph of a petri dish containing a dense layer of yellow, rod-shaped bacteria. The dish is partially visible on the left side of the frame. The background is a dark blue gradient with a white diagonal line separating it from a white area where the quote is located.

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*The teaching team has selected for this program clinical cases from their own practices so that you can work on perfecting your medical skills in a practical and dynamic way"*

### Module 1. Advances in Antibiotic Therapy

- 1.1. Basic Principles in the Selection and Use of Antimicrobials
- 1.2. Resistance Bases and Their Clinical Implications
- 1.3. Clinical Application of the PK/PD Parameters
- 1.4. Use of Antimicrobials in Special Situations in the Host

### Module 2. Responsible Antibiotic Use

- 2.1. Beta-Lactams I: Penicillins, Aminopenicillins and Beta-Lactamase Inhibitors
- 2.2. Beta-Lactams II: Cephalosporins, Monobactams and Carbapenems
- 2.3. Aminoglycosides, Tetracyclines and, Lincosamides, Rifamycins and Antifolates
- 2.4. Quinolones and Macrolides
- 2.5. Glycopeptides. New Antibiotics for Gram-Positive Infections (Lipopeptides and Oxazolidinones)
- 2.6. Anti-Fungal Agents
- 2.7. Anti-Viral Agents (Excluding Antiretrovirals and Direct Antivirals for Hepatitis C)
- 2.8. Combinations of Antimicrobials Pros and Cons

### Module 3. Antimicrobial Resistance

- 3.1. Epidemiology. From Molecular to Socioeconomic
  - 3.1.1. Analysis of Molecular Evolution, Genetics, Clinical Manifestation, Epidemiology and Socioeconomics of the Resistance to Antibiotics
  - 3.1.2. Mortality Due to Super Bacteria
  - 3.1.3. Most Lethal Super Bacteria
- 3.2. Mechanisms of Antimicrobial Resistance
  - 3.2.1. Genetic Mechanisms
  - 3.2.2. Acquired Mechanisms
- 3.3. MRSA and GISA
  - 3.3.1. Epidemiology
  - 3.3.2. Resistance Mechanisms
  - 3.3.3. Alternative Treatments.
- 3.4. Resistant Enterobacteria
  - 3.4.1. Epidemiology
  - 3.4.2. Resistance Mechanisms
  - 3.4.3. Alternative Treatments.



- 3.5. Resistant Pneumococcus
  - 3.5.1. Epidemiology
  - 3.5.2. Resistance Mechanisms
  - 3.5.3. Alternative Treatments.
- 3.6. Viral Resistance
  - 3.6.1. Epidemiology
  - 3.6.2. Resistance Mechanisms
  - 3.6.3. Alternative Treatments.
- 3.7. Mycotic and Parasitic Resistance
  - 3.7.1. Epidemiology
  - 3.7.2. Resistance Mechanisms
  - 3.7.3. Alternative Treatments.
- 3.8. Worldwide Program for the Control of Antimicrobial Resistance and Research into New Antibiotics
  - 3.8.1. Objectives and Action of the Worldwide Program for the Control of Antimicrobial Resistance
  - 3.8.2. Research into New Antibiotics for Multiresistant Germs
  - 3.8.3. Emergence of Other Forms of Treatment for Infection Control

“*The best academic option to update you on the latest developments in antimicrobial resistance and implement in your medical practice the clinical strategies that are currently showing the best results”*



# 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

This Postgraduate Diploma in Antibiotic Therapy guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Global University.



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

This program will allow you to obtain your **Postgraduate Diploma in Antibiotic Therapy** 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 Diploma in Antibiotic Therapy**

Modality: **online**

Duration: **6 months**

Credits: **18 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 training

development language

virtual classroom

**tech** global  
university

## Postgraduate Diploma Antibiotic Therapy

- » Modality: online
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