

Postgraduate Certificate

Multidrug-Resistant Bacteria in Human Pathology





Postgraduate Certificate Multidrug-Resistant Bacteria in Human Pathology

- » 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/multidrug-resistant-bacteria-human-pathology

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 challenge of Multidrug-Resistant Bacteria in Human Pathology represents one of the greatest threats to global health. According to the World Health Organization, they cause at least 700,000 deaths annually worldwide. Therefore, the European Center for Disease Prevention and Control has emphasized the urgent need to develop new antibiotics and improve prescribing practices to curb this growing crisis. In this sense, TECH offers a comprehensive program, in which the most relevant issues of this subject have been compiled, offering practical specialization that will prepare physicians to face the most complex challenges. All this, through a successful 100% online methodology and the most updated pedagogical material in the academic panorama.





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Thanks to this 100% online program, you will be prepared to design effective strategies adapted to each region of the world, in order to mitigate the problem of multi-resistance worldwide"

The field of Multidrug-Resistant Bacteria in Human Pathology faces increasingly complex challenges, reflecting a worrying evolution in antimicrobial resistance. The indiscriminate and excessive use of antibiotics in human medicine, veterinary medicine and agriculture has accelerated this problem, creating an environment conducive to the selection and proliferation of resistant strains. In response, international institutions such as the World Health Organization and the European Center for Disease Prevention and Control have implemented global programs to combat it. These initiatives focus on strengthening epidemiological surveillance, fostering research and development of new treatments, and promoting education on responsible drug use.

In this context, TECH has designed this comprehensive program, thanks to which physicians will be able to update their knowledge and delve into recent innovations in this area of expertise. Therefore, they will analyze the current situation in different regions of the world in order to develop effective strategies to mitigate the problem of multidrug resistance at a global level. In addition, they will delve into health policies and antibiotic resistance, as well as its associated cost and impact on public health.

All this, with the support of prestigious teachers and through a fully online study plan, so that students can specialize at their own pace, without adapting to established schedules and from any electronic device with Internet access. At the same time, they will have a quality syllabus and multimedia and interactive material, so that they can catch up in an attractive way and internalize the concepts more effectively. They will also benefit from the successful Relearning methodology, in which TECH is a pioneer.

This **Postgraduate Certificate in Multidrug-Resistant Bacteria in Human Pathology** 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 Microbiology, Medicine and Parasitology
- ♦ The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable 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



Position yourself as a leading professional in the field of Multiresistant Bacteria in Human Pathology, thanks to the successful Relearning methodology, in which TECH is at the forefront"



Update your knowledge through the analysis of real practical cases and the comprehensive vision provided by the syllabus of this university program. With all the TECH quality guarantees!"

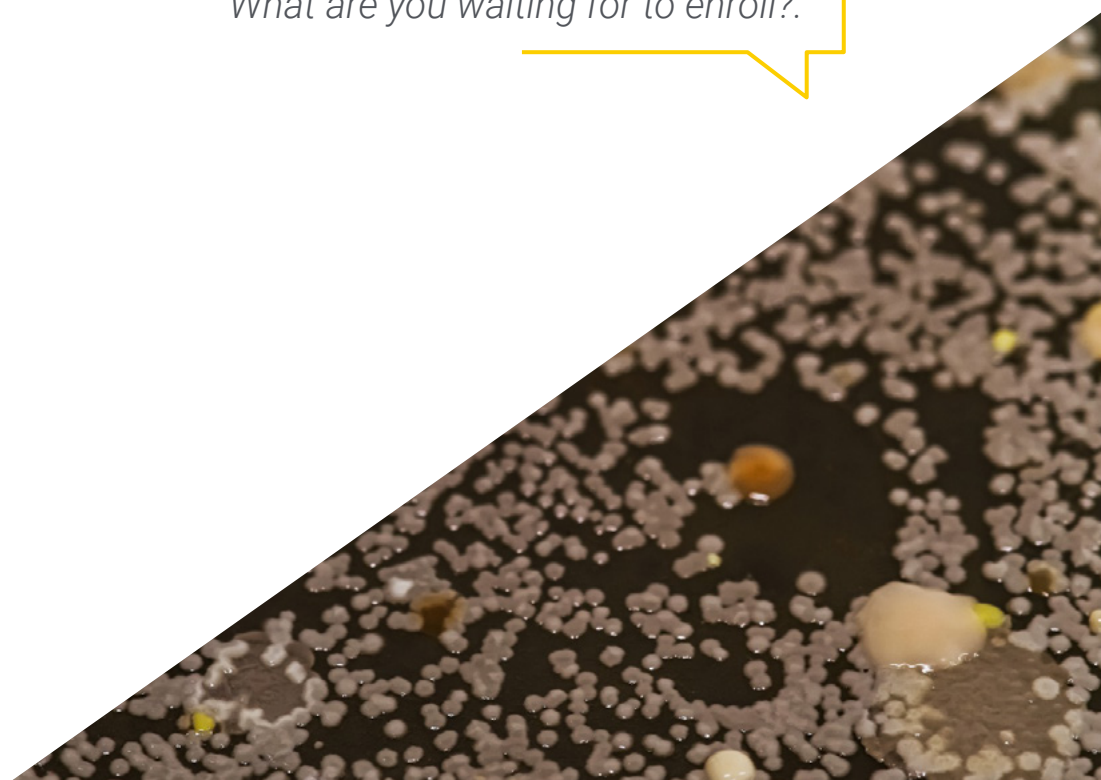
The program includes in its teaching staff, professionals of the sector who pour into this specialization the experience of their work, in addition to recognized specialists from reference societies and prestigious universities.

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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

You will delve into the role that Artificial Intelligence will play in Clinical Microbiology and you will be qualified to successfully overcome the challenges faced by global healthcare in terms of AMR bacteria.

*You will have access to reference teaching material, with the attraction of multimedia and interactive content to facilitate an in-depth understanding of the area of study.
What are you waiting for to enroll?.*



02

Objectives

This TECH program has been designed with the aim of providing students with the fundamental competences to put the acquired knowledge into practice in an efficient way. This is why emphasis will be placed on the latest updates in this field. Furthermore, thanks to this program, doctors will delve into the different factors that influence antibiotic resistance, and analyze trends in each region to develop accurate plans.



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You will study antimicrobial molecules in depth, analyzing the effectiveness of infection prevention strategies and specializing in Artificial Intelligence applied to Microbiology, with the help of TECH"



General Objective

- ♦ Understand how bacterial resistance evolves as new antibiotics are introduced into clinical practice

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You will explore the importance of Proteomics and Genomics in the Microbiology laboratory, delving into the most recent advances and the latest scientific evidence”





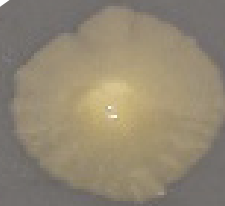
Specific Objectives

- Evaluate the causes of antibiotic resistance, from the lack of new antibiotics, to socioeconomic factors and health policies
- Examine the current status of antibiotic resistance in the world, including global statistics and trends in different regions

03

Course Management

In keeping with its commitment to educational excellence, TECH has a prestigious teaching staff to deliver this program. The experts in this program have extensive professional experience and a solid academic background. They also have a proven career in the field of research. Therefore, they will be able to provide students with in-depth knowledge in the area of Multiresistant Bacteria, supported by attractive teaching tools and the analysis of real case studies.



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Specialize from prestigious experts, with a proven and extensive professional career, and obtain a comprehensive and practical vision of Multi-Resistant Bacteria in Human Pathology"

Management



Dr. Ramos Vivas, José

- Director of the Banco Santander-Universidad Europea del Atlántico Chair in Innovation
- Researcher at the Center for Innovation and Technology of Cantabria (CITICAN)
- Academic of Microbiology and Parasitology at the European University of the Atlantic
- Founder and former director of the Cellular Microbiology Laboratory of the Valdecilla Research Institute (IDIVAL)
- PhD in Biology from the University of León
- Doctor in Sciences from the University of Las Palmas de Gran Canaria
- Degree in Biology from the University of Santiago de Compostela
- Master's Degree in Molecular Biology and Biomedicine from the University of Cantabria
- Member of: CIBERINFEC (MICINN-ISCIII), Member of the Spanish Society of Microbiology and Member of the Spanish Network of Research in Infectious Pathology



04

Structure and Content

The syllabus has been designed in an exhaustive manner, focusing on the most relevant aspects of the subject and taking into account the requirements and demands of the teaching staff. For this reason, a series of concepts have been established that will be approached from a comprehensive and practical perspective, so that doctors can internalize them and apply them effectively. Therefore, the improper use of antibiotics, as well as the mechanisms of antibiotic resistance will be analyzed. You will also learn about the World Health Organization's (WHO) updated list of bacteria that are highly dangerous to human health.



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You will access a complete syllabus, which will address the most relevant aspects of the field of Multi-drug Resistant Bacteria from an integral perspective, analyzing its practical applications"

Module 1. Multidrug-Resistant Bacteria in Human Pathology

- 1.1. Mechanisms of Acquired Resistance to Antibiotics
 - 1.1.1. Acquisition of Resistance Genes
 - 1.1.2. Mutations.
 - 1.1.3. Acquisition of Plasmids
- 1.2. Mechanisms of Intrinsic Resistance to Antibiotics
 - 1.2.1. Blockage of Antibiotic Entry
 - 1.2.2. Modification of the Antibiotic Target
 - 1.2.3. Inactivation of the Antibiotic
 - 1.2.4. Antibiotic Expulsion
- 1.3. Chronology and Evolution of Antibiotic Resistance
 - 1.3.1. Discovery of Antibiotic Resistance
 - 1.3.2. Plasmids
 - 1.3.3. Evolution of Resistance
 - 1.3.4. Current Trends in the Evolution of Antibiotic Resistance
- 1.4. Antibiotic Resistance in Human Pathology
 - 1.4.1. Increased Mortality and Morbidity
 - 1.4.2. Impact of Resistance on Public Health
 - 1.4.3. Economic Cost Associated with Antibiotic Resistance
- 1.5. Multidrug-resistant Human Pathogens
 - 1.5.1. Acinetobacter Baumannii
 - 1.5.2. Pseudomonas Aeruginosa
 - 1.5.3. Enterobacteriaceae
 - 1.5.4. Enterococcus Faecium
 - 1.5.5. Staphylococcus Aureus
 - 1.5.6. Helicobacter Pylori
 - 1.5.7. Campylobacter Spp
 - 1.5.8. Salmonellae
 - 1.5.9. Neisseria Gonorrhoeae
 - 1.5.10. Streptococcus Pneumoniae
 - 1.5.11. Hemophilus Influenzae
 - 1.5.12. Shigella Spp





- 1.6. Bacteria Highly Dangerous to Human Health: Update of the WHO List
 - 1.6.1. Critical Priority Pathogens
 - 1.6.2. High Priority Pathogens
 - 1.6.3. Pathogens with Medium Priority
- 1.7. Analysis of the Causes of Antibiotic Resistance
 - 1.7.1. Lack of New Antibiotics
 - 1.7.2. Socioeconomic Factors and Health Policies
 - 1.7.3. Poor Hygiene and Sanitation
 - 1.7.4. Health Policies and Antibiotic Resistance
 - 1.7.5. International Travel and Global Trade
 - 1.7.6. Dispersal of High-Risk Clones
 - 1.7.7. Emerging Pathogens with Resistance to Multiple Antibiotics
- 1.8. Antibiotic Use and Abuse in the Community
 - 1.8.1. Prescription
 - 1.8.2. Acquisition
 - 1.8.3. Misuse of Antibiotics
- 1.9. Current Status of Antibiotic Resistance in the World
 - 1.9.1. Global Statistics
 - 1.9.2. Central and South America
 - 1.9.3. Africa
 - 1.9.4. BORRAR
 - 1.9.5. North America
 - 1.9.6. Asia and Oceania
- 1.10. Perspectives on Antibiotic Resistance
 - 1.10.1. Strategies to Mitigate the Problem of Multi-drug Resistance
 - 1.10.2. International Actions
 - 1.10.3. Actions at the Global Level

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. Gervas, 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 Multidrug-Resistant Bacteria in Human Pathology guarantees, in addition to the most accurate 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 private qualification will allow you to obtain a **Postgraduate Certificate in Multidrug-Resistant Bacteria in Human Pathology** 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** private qualification, 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 Multidrug-Resistant Bacteria in Human Pathology**

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
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education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present
development language
virtual classroom

tech global
university

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