



# Postgraduate Certificate

Multidrug-Resistant Gram Negative Bacteria for Nursing

» Modality: online

» Duration: 6 weeks

» Certificate: TECH Global University

» Accreditation: 6 ECTS

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/nursing/postgraduate-certificate/multidrug-resistant-gram-negative-bacteria-nursing

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# 01 Introduction

Multidrug-Resistant Gram Negative Bacteria are a growing global public health concern due to their ability to develop resistance to multiple antimicrobials. According to recent data from the World Health Organization, nosocomial infections have increased significantly in recent years, resulting in higher mortality rates among hospitalized patients. In this context, nurses play a crucial role in the prevention, early diagnosis and effective management of these infections. Therefore, it is essential that they remain at the forefront of the latest advances in treatments to provide excellent services. With this in mind, TECH presents a revolutionary online course focused on the most innovative therapies to combat infections caused by microorganisms.



# tech 06 | Introduction

In the healthcare setting, infections caused by Multidrug-Resistant Gram Negative Bacteria represent a growing challenge for healthcare professionals. Among the main reasons for this is that antimicrobial resistance complicates the treatment of common infections in clinical settings. In this regard, nurses play a key role in the implementation of infection control measures to address this global phenomenon. To do so, these experts need to incorporate into their routine practice the most modern strategies to ensure the efficacy of antibiotic treatments and, therefore, optimize the quality of life of their patients.

Given this scenario, TECH launches a complete and innovative program on Multidrug-Resistant Gram Negative Bacteria for Nursing. Conceived by specialists in this field, the academic itinerary will comprehensively analyze the epidemiology of these microorganisms. This will allow professionals to identify the presence of these bacteria in users early. Likewise, the syllabus will provide the keys to carry out a holistic clinical evaluation of patients with suspected infections. Along the same lines, the program will explore the different antibiotic treatments to combat these bacteria and ensure the well-being of people.

It should be noted that, for the development of this program, TECH has created a fully online educational environment, designed to meet the needs of professionals with busy schedules. In this way, these experts will be able to individually manage both their schedules and evaluations. Furthermore, the teaching incorporates the revolutionary Relearning method, based on the repetition of key concepts to consolidate knowledge in an optimal way. The only thing professionals will need is an electronic device with Internet access to access the Virtual Campus. In this way, they will enjoy the most complete and renewed didactic materials of the academic market to make a quality leap in their professional career as nurses.

This Postgraduate Certificate in Multidrug-Resistant Gram Negative Bacteria for Nursing 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



You will have access to a specialized university program adapted to your profession to improve every day in the treatment of patients affected by Multidrug-Resistant Gram Negative Bacteria"



You will gain profound knowledge of the Clinical Actors in the Acquisition of Infections and contribute to both epidemiological surveillance and outbreak control"

The program's teaching staff includes professionals from the sector who contribute their work experience to this training 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

Do you want to effectively handle the most sophisticated tools to calculate the risk of the presence of Multidrug-Resistant Gram Negative microorganisms? Achieve it with this program.

Through TECH's revolutionary Relearning method, you will integrate all the knowledge in an optimal way to experience a quality leap in your career as a Nurse.





Upon completion of this program, nurses will have a deep understanding of the epidemiology, microbiological and pathogenic characteristics of Multidrug-Resistant Gram Negative Bacteria. Likewise, graduates will identify the signs of these infections and correctly apply microbiological diagnostic techniques. In turn, professionals will implement effective control measures to prevent the transmission of these bacteria in health care settings, including the proper use of standard and specific precautions. In addition, they will be qualified to educate the community about infection prevention, proper antimicrobial stewardship, and the importance of maintaining proper hygiene.



# tech 10 | Objectives



# **General Objectives**

- Analyze the effectiveness of infection prevention strategies, including the use of quality indicators, evaluation tools and continuous improvement tools
- Understand the pathogenesis of Gram Negative Infections, including the factors related to these bacteria and patients themselves



# **Specific Objectives**

- Select the appropriate empirical antibiotic treatment for suspected infections with Multidrug-Resistant Gram Negative Microorganisms
- Determine the importance of PROA (Program for Optimization of Antimicrobial Agents) teams in infections by Multidrug-Resistant Gram Negative Microorganisms



Update your knowledge on Multidrug-Resistant Gram Negative Bacteria through innovative multimedia content, including resources such as interactive summaries or explanatory videos"







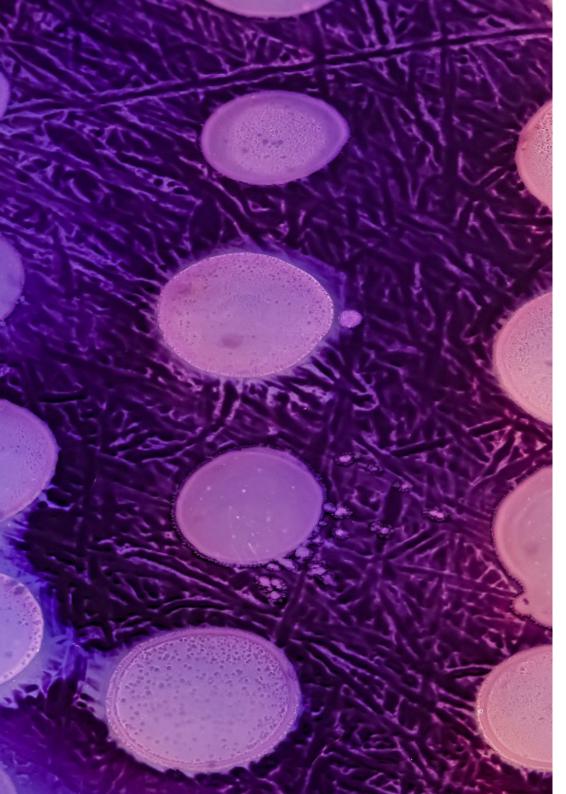
# tech 14 | Course Management

#### 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



# Course Management | 15 tech

#### **Professors**

#### Dr. Armiñanzas Castillo, Carlos

- Specialist at the University Hospital Marqués de Valdecilla, Cantabria
- Researcher at the Valdecilla Research Institute (IDIVAL), Cantabria
- Doctor in Medicine by the University of Cantabria
- Master's Degree in Human Immunodeficiency Virus Infection, Rey Juan Carlos University
- Master's Degree in Graphic Medicine from the International University of Andalusia
- Degree in Medicine from the University of Cantabria
- Member of: Center for Biomedical Research in the Infectious Diseases Network CIBERINFEC (MICINN-ISCIII) and Society of Infectious Diseases and Clinical Microbiology (SEIMC)



Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"





# tech 18 | Structure and Content

#### Module 1. Multidrug-Resistant Gram Negative Bacteria

- 1.1. Infections Due to Gram-Negative Microorganisms
  - 1.1.1. Epidemiology of Gram-Negative Microorganisms
  - 1.1.2. Community and Nosocomial Infections by Gram-Negative Microorganisms
  - 1.1.3. Relevance of Infections by Multidrug-Resistant Gram-Negative Microorganisms
- 1.2. Pathogenesis of Infections by Gram-Negative Microorganisms
  - 1.2.1. Factors Related to Gram-Negative Microorganisms
  - 1.2.2. Patient Factors in Gram-Negative Infections
  - 1.2.3. Other Factors in Gram-Negative Infections
- 1.3. Clinical Evaluation of Patients with Multidrug-Resistant Gram-Negative Infections
  - 1.3.1. Medical History
  - 1.3.2. Clinical Evaluation of Patients
  - 1.3.3. Other Data of Interest
- 1.4. Complementary Tests in Infections by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.4.1. Blood Tests
  - 1.4.2. Imaging Tests
  - 1.4.3. Microbiological Techniques
- 1.5. Estimation of Severity in Patients with Infections by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.5.1. Gram-Negative Multidrug-Resistant Microorganisms
  - 1.5.2. Traditional Approach to Severity Estimation
  - 1.5.3. Practical Conclusions
- 1.6. Risk of Acquiring Infections by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.6.1. Clinical Factors in the Acquisition of Infections by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.6.2. Other Factors in the Acquisition of Infections by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.6.3. Tools to Calculate the Risk of Presence of Multidrug-Resistant Gram-Negative Microorganisms
- 1.7. Empirical Treatment in the Suspicion of Infections by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.7.1. Microorganisms Involved According to Localization
  - 1.7.2. Comprehensive Assessment of Patients with Suspected Infections by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.7.3. Selection of Empirical Antibiotic Treatment





## Structure and Content | 19 tech

- 1.8. Targeted Therapy in Infections by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.8.1. Adjustment of Antibiotic Therapy According to Microbiological Results
  - 1.8.2. Follow-up of Multidrug-Resistant Gram-Negative Microorganism Infection
  - 1.8.3. Most Relevant Side Effects of Antibiotherapy
- 1.9. Duration of Antibiotherapy in Infections by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.9.1. Estimation of the Duration of Antibiotic Treatment in Infections by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.9.2. Relevance of Focus Control in Infections by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.9.3. Special Considerations Related to Antibiotic Therapy in These Infections
- 1.10. PROA Teams in Infections Caused by Multidrug-Resistant Gram-Negative Microorganisms
  - 1.10.1. PROA Teams: History
  - 1.10.2. Impact of PROA Teams on the Correct Use of Antibiotic Treatments
  - 1.10.3. Challenge of PROA Teams in the Treatment of Infections Caused by Multidrug-Resistant Gram-Negative Microorganisms

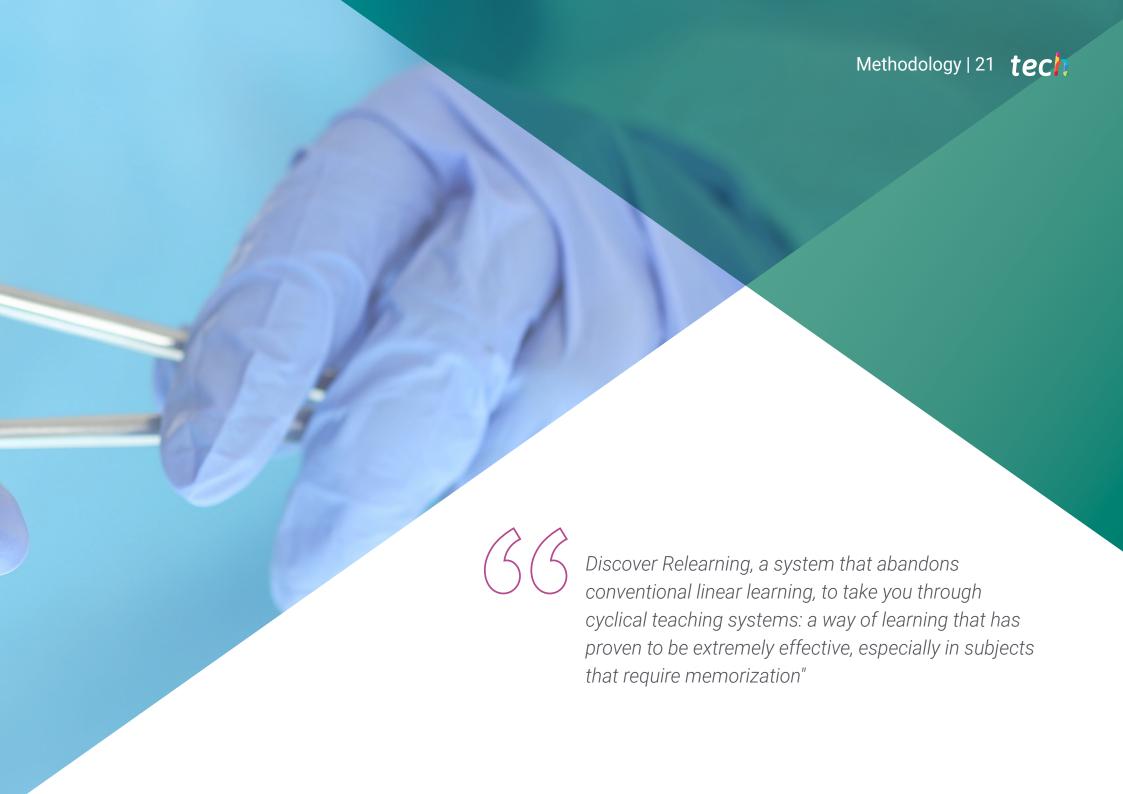


A flexible university program, without fixed schedules and with content available 24 hours a day. Enroll now!"



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.

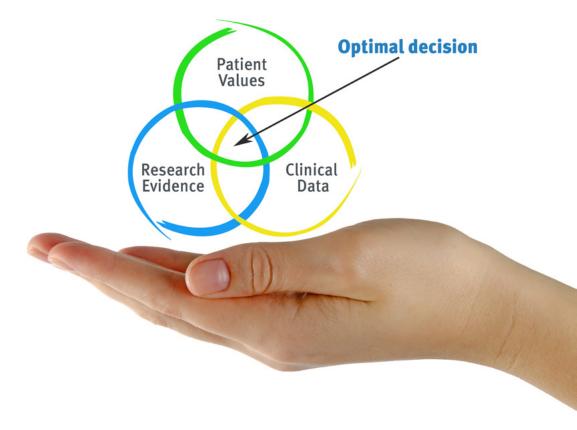


# tech 22 | Methodology

#### At TECH Nursing School we use the Case Method

In a given situation, what should a professional do? 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. Nurses learn better, faster, and more sustainably over time.

With TECH, nurses can experience a learning methodology 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, in an attempt to recreate the real conditions in professional nursing 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:

- Nurses who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
- 2. The learning process has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
- 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 case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.

The nurse will learn through real cases and by solving complex situations in simulated learning environments.

These simulations are developed using state-of-the-art software to facilitate immersive learning.



## Methodology | 25 tech

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 we have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical workload. 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 really specific and precise.

These contents are then adapted in 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.



#### **Nursing Techniques and Procedures on Video**

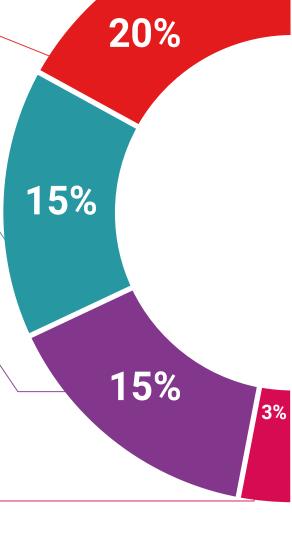
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch them as many times as you want.



#### **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.

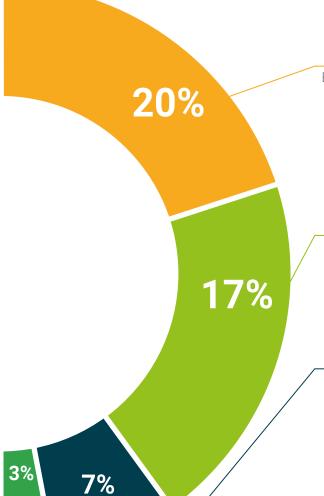
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".





#### **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**

The student's knowledge is periodically assessed and re-assessed throughout the program, through evaluative and self-evaluative activities and exercises: in this way, students can check how they are doing in terms of achieving their goals.



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.





#### **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.







# tech 30 | Certificate

This private qualification will allow you to obtain a **Postgraduate Certificate in Multidrug-Resistant Gram Negative Bacteria for Nursing** 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 Gram Negative Bacteria for Nursing

Modality: online

Duration: 6 months

Accreditation: 6 ECTS



#### Postgraduate Certificate in Multidrug-Resistant Gram Negative Bacteria for Nursing

This is a private qualification of 180 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024



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institutions technology learning



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