

# Postgraduate Certificate

Management of Patients with  
Multidrug-Resistant Bacterial  
Infections in Intensive Care  
Units (ICU) for Nursing





## Postgraduate Certificate Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU) for Nursing

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Accreditation: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/nursing/postgraduate-certificate/management-patients-multidrug-resistant-bacterial-infections-intensive-care-units-uci-nursing](http://www.techtute.com/us/nursing/postgraduate-certificate/management-patients-multidrug-resistant-bacterial-infections-intensive-care-units-uci-nursing)

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# 01

# Introduction

Intensive Care Units (ICU) are scenarios where infections by Multidrug-Resistant Bacteria represent a constant threat to the safety and well-being of patients. In this situation, nurses play an important role in the constant surveillance of users, identifying symptoms of infection and monitoring the response to the treatments applied. For this reason, it is crucial that these experts remain at the forefront of the most innovative strategies to prevent the spread of bacteria between individuals. In this context, TECH presents a revolutionary university program focused on the management of patients with these infections. In addition, it is delivered -in a convenient and flexible 100% online modality.



A close-up photograph of a petri dish containing a bacterial culture on a reddish agar. A gloved hand is visible at the bottom left, holding the edge of the dish. The background is a dark green gradient.

“

*Thanks to this 100% online program, you will apply the most effective measures for infection control in the ICU and prevent nosocomial transmission of Multidrug-Resistant Bacteria"*

A report carried out by the World Health Organization shows that antimicrobial resistance has contributed to the death of more than 700,000 people in Intensive Care Units. In this regard, the organization estimates that, if appropriate measures are not taken, this number will increase to 10 million people. In the face of this reality, nurses have the task of carrying out constant surveillance of these patients, especially those at risk of developing Multidrug-Resistant Bacteria infections. In order to optimize their clinical outcomes, these professionals need to update their knowledge frequently to provide comprehensive care.

For this reason, TECH is launching an innovative and comprehensive program in the Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU) for Nursing. The academic itinerary will delve into the risk factors for nosocomial infections, enabling nurses to implement preventive measures to detect early signs of infection. Likewise, the syllabus will delve into the appropriate use of antibiotics for the treatment of Gram-negative and Gram-positive infections. In line with this, the program will provide graduates with multiple strategies for the prevention of infections in ICU according to different foci (among which Pneumonia or Bacteremia stand out). In addition, professionals will acquire competencies to handle the most sophisticated assessment tools.

In addition, the degree is based on the Relearning method, of which TECH is a pioneer. This system uses the reiteration of key content in a natural way, ensuring that the content is retained in the nurses' memory without the need for memorization. It should be noted that the only thing professionals need to access the Virtual Campus is a device with Internet access (such as cell phones, tablets or computers). Complementary to this, the ISTN nursing staff will be able to access a digital library full of additional didactic materials to enrich their educational experience.

This **Postgraduate Certificate in Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU) for Nursing** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of case studies presented by experts in Multidrug-Resistant Bacteria, healthcare and intensive care
- ♦ 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



*Study from the comfort of your home and update your knowledge online with TECH Global University, the biggest online university in the world"*

“

*You will delve into risk factors for nosocomial infections, which will enable you to proactively plan care"*

*Do you want to incorporate the most innovative strategies for the prevention of Multidrug-Resistant Bacteria infections in the ICU into your routine procedures? Achieve it through this program.*

*Thanks to the Relearning system used by TECH you will reduce the long hours of study and memorization.*

The program's teaching staff includes professionals from the sector who contribute their work experience to this specializing 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.





# 02 Objectives

Upon completion of this program, nurses will have a solid understanding of the most common Multidrug-Resistant Bacteria in ICU settings. At the same time, professionals will implement the most effective infection control measures to prevent nosocomial transmission of multidrug-resistant bacteria. In this sense, graduates will develop advanced skills in the clinical management of patients with infections, including accurate diagnosis, appropriate treatment and intensive monitoring. Additionally, experts will be highly qualified to participate in research that contributes to the advancement of scientific knowledge and the implementation of evidence-based best practices.





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*You will acquire competencies in the selection and administration of specific antimicrobial therapies for Multidrug-Resistant Bacteria"*



## General Objectives

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- ♦ Understand the colonization and infection of patients in Intensive Care Units (ICUs), the different types and risk factors associated with infection
- ♦ Evaluate the impact of Nosocomial Infections in the critically ill patient, including the importance of risk factors and their impact on length of stay in the ICU



*You will achieve your objectives with the help of TECH's didactic tools, including explanatory videos and interactive summaries"*





## Specific Objectives

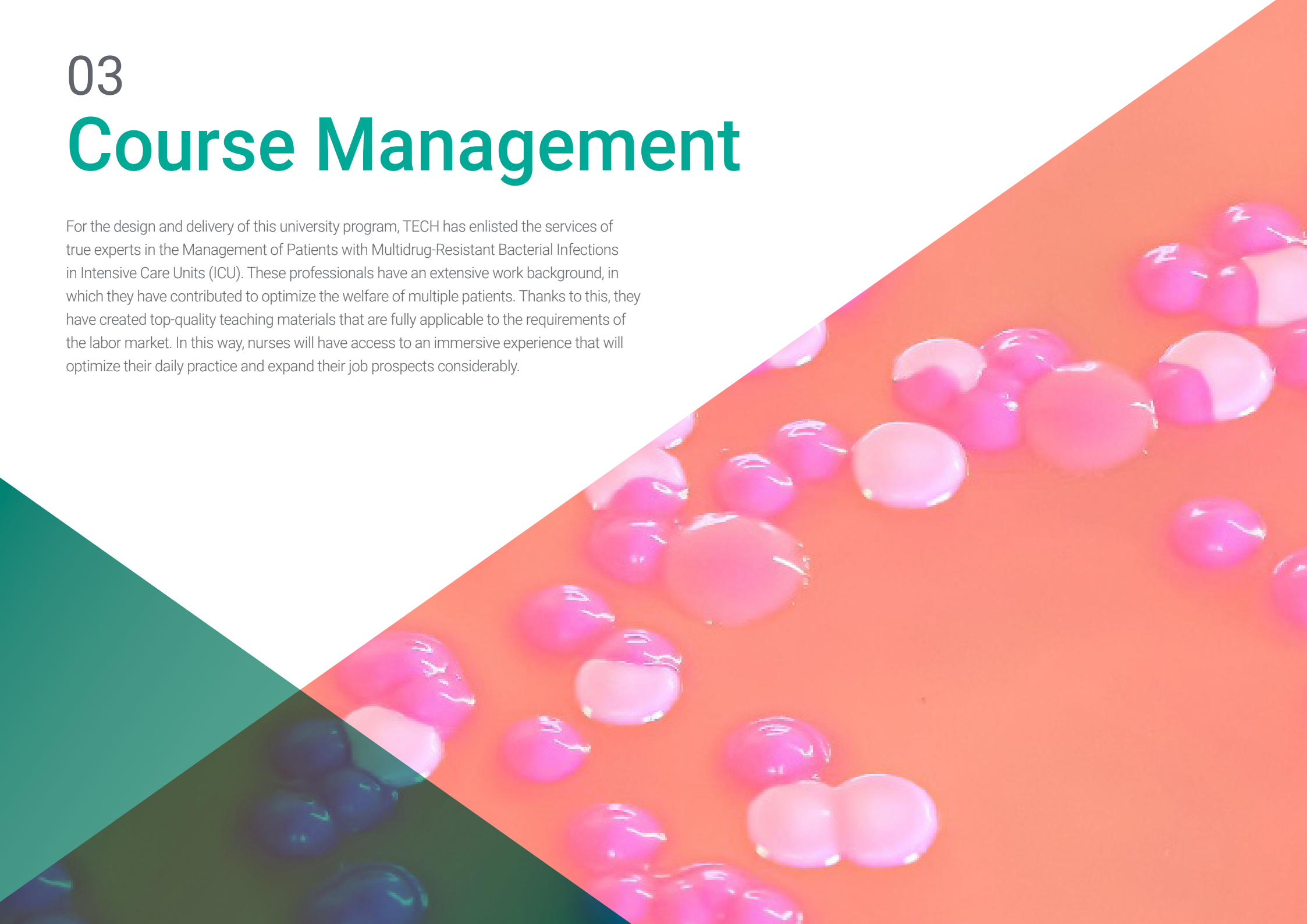
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- ◆ Acquire specialized knowledge on the diagnosis and treatment of common infections in ICUs
- ◆ Develop skills for the prevention of Multiresistant Bacterial Infections in the ICU

03

# Course Management

For the design and delivery of this university program, TECH has enlisted the services of true experts in the Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU). These professionals have an extensive work background, in which they have contributed to optimize the welfare of multiple patients. Thanks to this, they have created top-quality teaching materials that are fully applicable to the requirements of the labor market. In this way, nurses will have access to an immersive experience that will optimize their daily practice and expand their job prospects considerably.



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*An experienced faculty specialized in  
Multidrug-Resistant Bacterial Infections in  
Intensive Care Units will guide you through  
the entire learning process"*

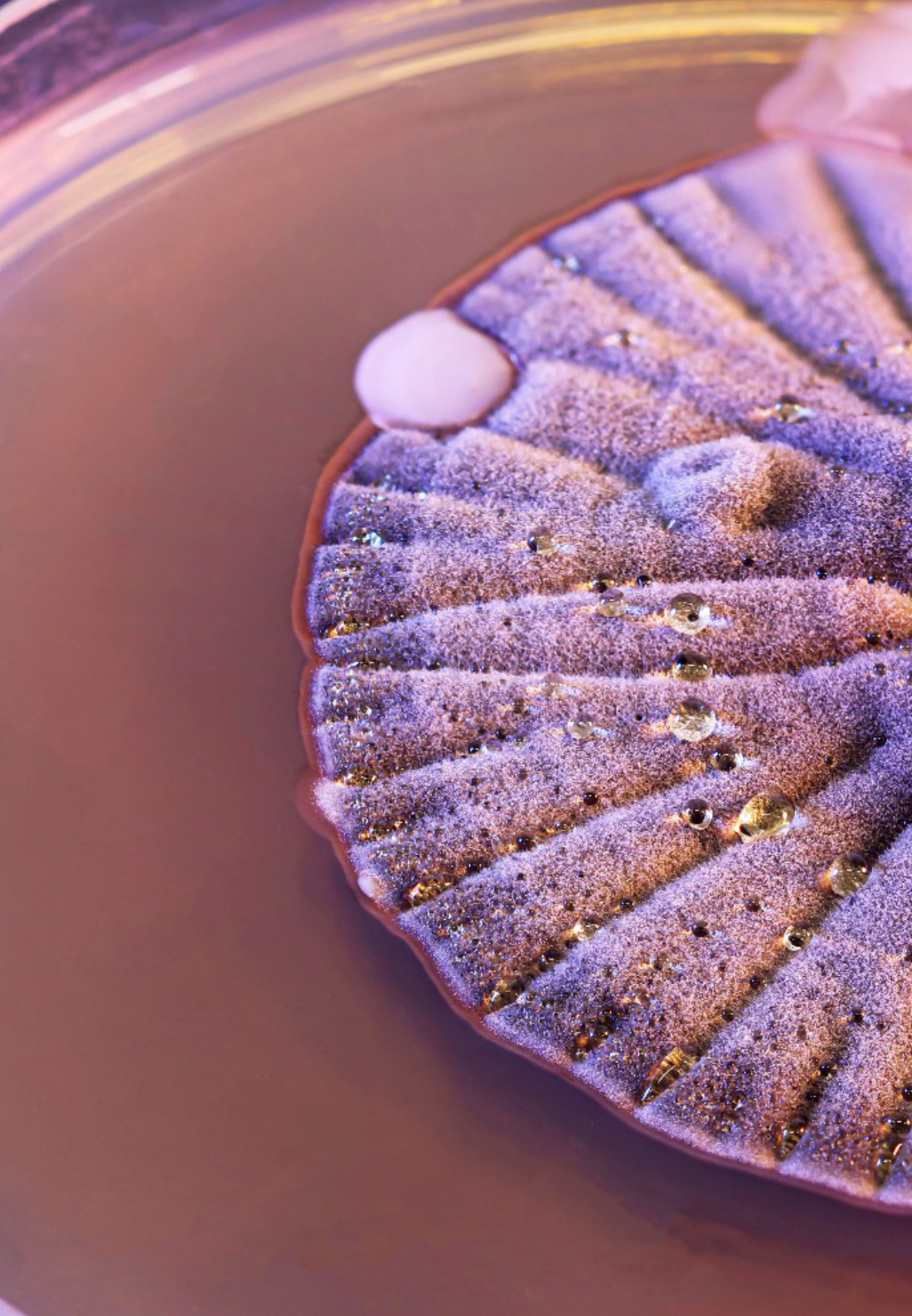
## Management



### 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





## Professors

### Dr. Suberviola Cañas, Borja

- ♦ Assistant Physician of the Intensive Care Medicine Service at the Marqués de Valdecilla University Hospital
- ♦ Principal Investigator and Collaborating Researcher in 6 projects with competitive funding
- ♦ Doctor en Medicina por la Universidad de Cantabria
- ♦ Specialty in Intensive Care Medicine and Resuscitation at the Marqués de Valdecilla University Hospital in Santander
- ♦ Degree in Medicine from the University of the Basque Country
- ♦ Master's Degree in Infectious Diseases in the Critically Ill Patient from the University of Valencia
- ♦ Member and Vice-coordinator of the Working Group on Infectious Diseases and Sepsis (GTEIS) of the Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units (SEMICYUC)
- ♦ Member of the Group of Infectious Diseases in the Critical Patient of the Spanish Society of Infectious Diseases and Clinical Microbiology (SEIMC)



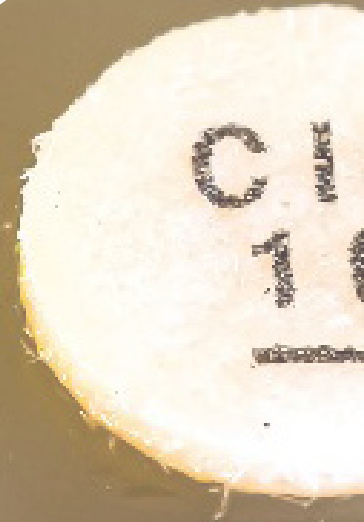
*Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"*



# 04

## Structure and Content

Through this program, nurses will acquire a thorough understanding of the most common Multidrug-Resistant Bacteria in ICU settings. To this end, the syllabus will analyze the risk factors associated with infection and their impact on critically ill patients. Similarly, the syllabus will provide advanced strategies to ensure the optimization of antibiotic use. In addition, during the course of the program, graduates will develop skills for the accurate diagnosis and comprehensive evaluation of patients with Multidrug-Resistant Bacterial Infections. The pathway will also include examples of successful infection prevention in ICUs.



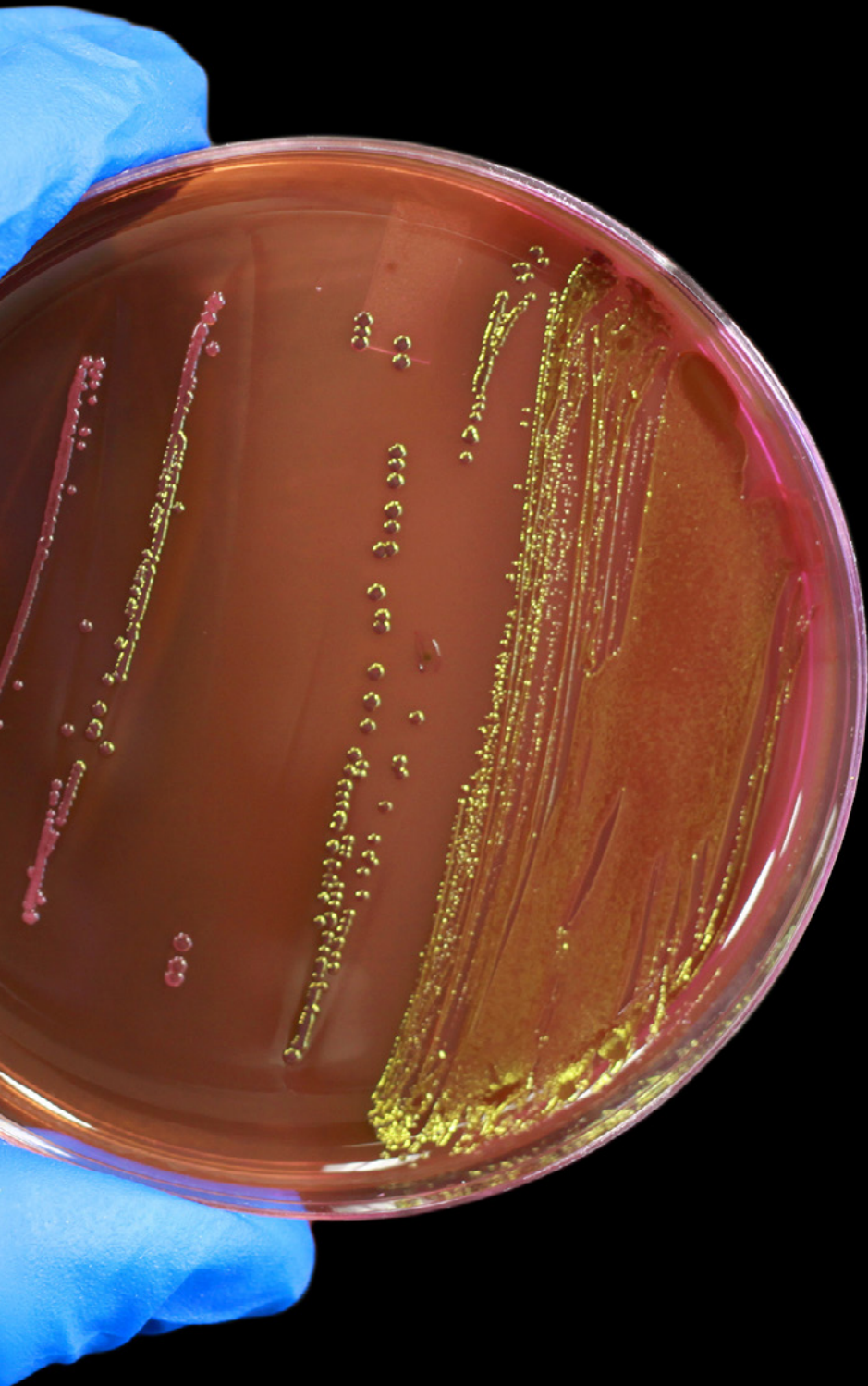
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*You will incorporate into your clinical practice the most sophisticated strategies to prevent nosocomial transmission of Multidrug-Resistant Bacteria in the ICU"*

## Module 1. Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU)

- 1.1. Colonization and Infection of Patients in ICUs
  - 1.1.1. Types of ICUs
  - 1.1.2. Epidemiology
  - 1.1.3. Risk Factors Associated with Infection in ICUs
- 1.2. Impact of Nosocomial Infections in the Critically Ill Patient
  - 1.2.1. Importance of Nosocomial Infections in ICUs
  - 1.2.2. Risk Factors for Nosocomial Infections
    - 1.2.2.1. Patient Factors
    - 1.2.2.2. Factors of the ICU Environment
    - 1.2.2.3. Factors Related to the Healthcare Personnel
  - 1.2.3. Impact of Nosocomial Infections in Immunocompromised Patients
  - 1.2.4. Impact on Length of Stay in the ICU
- 1.3. Pneumonia Associated with Mechanical Ventilation
  - 1.3.1. Etiology
  - 1.3.2. Diagnosis
  - 1.3.3. Treatment
- 1.4. Urinary Tract Infections Associated with Catheters
  - 1.4.1. Etiology
  - 1.4.2. Diagnosis
  - 1.4.3. Treatment
- 1.5. Primary Bacteremias and Catheter-related Bacteremias
  - 1.5.1. Etiology
  - 1.5.2. Diagnosis
  - 1.5.3. Treatment
- 1.6. Pseudomembranous Colitis
  - 1.6.1. Etiology
  - 1.6.2. Diagnosis
  - 1.6.3. Treatment





- 1.7. Infections by Opportunistic Pathogens
  - 1.7.1. Etiology
  - 1.7.2. Diagnosis
  - 1.7.3. Treatment
- 1.8. Appropriate Use of Antibiotics
  - 1.8.1. Programs for the Optimization of Antibiotic use (PROA) in the ICU
  - 1.8.2. Antibiotic Therapy Strategies for the Treatment of Gram-negative Patients
  - 1.8.3. Antibiotic Therapy Strategies for the Treatment of Gram-positive Patients
  - 1.8.4. Antibiotic Therapy Strategies for the Treatment of Co-infections
- 1.9. Strategies for the Prevention of BMR Infections in the ICU
  - 1.9.1. Hygiene Measures
  - 1.9.2. Infection Control Measures
  - 1.9.3. Protocols and Clinical Practice Guidelines
  - 1.9.4. Education and Training of ICU Personnel
  - 1.9.5. Participation of Patients and their Families
- 1.10. Infection Prevention Strategies in the ICU
  - 1.10.1. Infection Prevention Strategies in the ICU According to the Focus
    - 1.10.1.1. Pneumonia
    - 1.10.1.2. Bacteremia
    - 1.10.1.3. Urinary Infection
  - 1.10.2. Evaluation and Quality Indicators in the Prevention of Infections
  - 1.10.3. Evaluation and Continuous Improvement Tools
  - 1.10.4. Successful Examples of Infection Prevention in ICUs



*An academic experience without schedules or on-site classes and which you can access from any device with an Internet connection. Enroll now!"*



# 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.





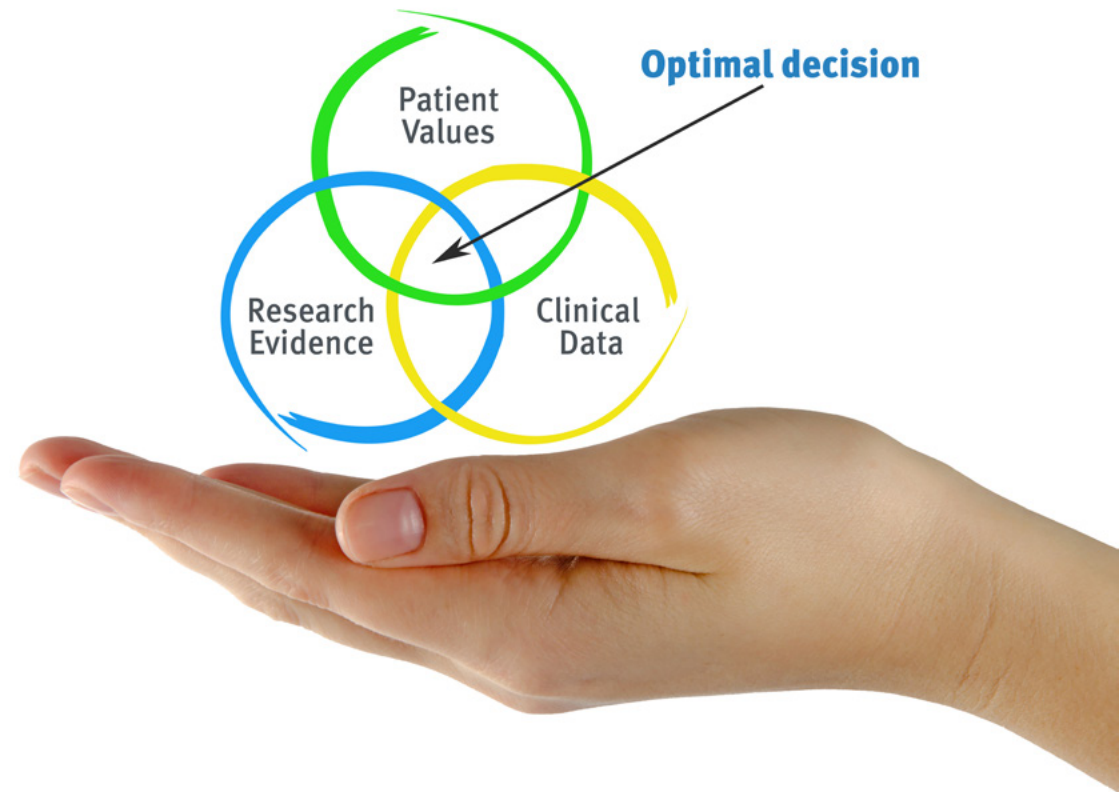
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH 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. 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, in an attempt to recreate the real conditions in professional nursing 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. 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.*



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 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.



### 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

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 suggesting that observing third-party experts can be useful.

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 Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU) for Nursing guarantees, in addition to the most accurate and up-to-date education, access to a Postgraduate Certificate 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 Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU) for Nursing** 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.

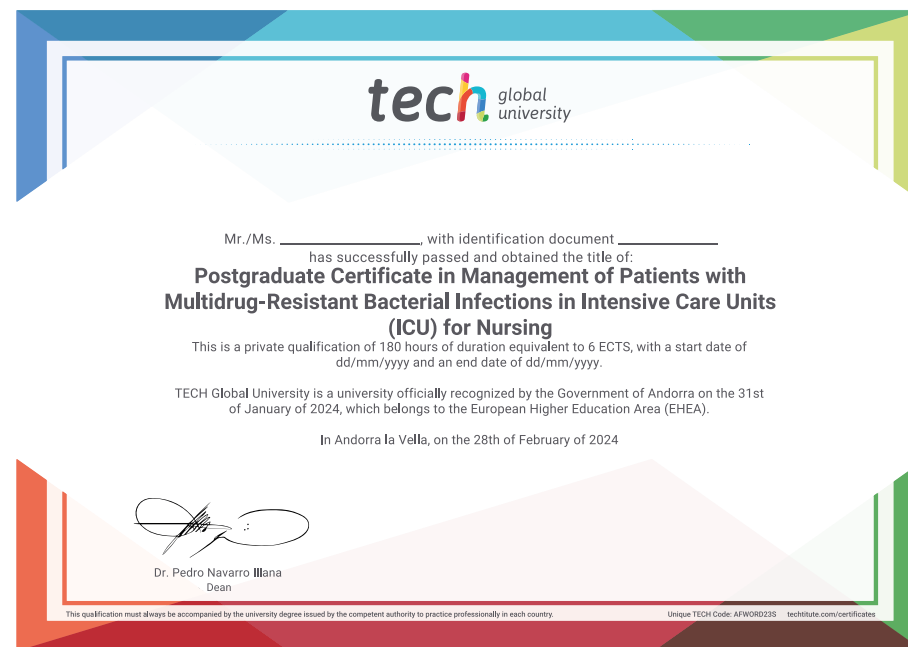
This **TECH Global University** private qualification, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU) for Nursing**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**





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- » Modality: **online**
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# Postgraduate Certificate

Management of Patients with  
Multidrug-Resistant Bacterial  
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