

Postgraduate Certificate

Infectious Diseases and Microbiology in the Emergency Room





Postgraduate Certificate Infectious Diseases and Microbiology in the Emergency Room

Course Modality: **Online**

Duration: **2 months.**

Certificate: **TECH Global University**

Accreditation: **7 ECTS**

Teaching Hours: **200 hours.**

Website: www.techtute.com/us/medicine/postgraduate-certificate/infectious-diseases-microbiology-emergency-room

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01

Introduction

Infectious diseases can be a serious problem worldwide, especially when they are widespread among the population. Microbiology plays a fundamental role in this field and, therefore, complementing both studies is the ideal way for the physician to obtain a high level of training and to be able to act more effectively in the cases they may attend to in the Emergency Room. If you want to increase your training and excel in your daily work, do not think twice and train with us.





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We offer you a complete training in infectious diseases and microbiology so that you are up to date with the main novelties in this field and offer a more personalized attention to your patients"

Microbiology studies are essential in healthcare areas, especially when the specialization is related to infectious diseases. These are two closely related fields that will allow physicians to have a higher level of training and, therefore, a better dedication in their daily practice.

The objective of this Postgraduate Certificate in Infectious Diseases and Microbiology in the Emergency Room is to train health professionals in this field, so that they are able to offer more personalized care to patients with these pathologies. For this purpose, we have a team of experts with extensive professional and teaching experience, who can provide you with all their knowledge in a didactic way to promote your learning.

It should be taken into account that in recent years, in addition to the classic infectious pathologies, there have been entities with a great impact on public health and of great complexity in their management, such as infection by the human immunodeficiency virus, the increase in bacterial resistance, infection in the context of patients with iatrogenic immunosuppression, or the exponential increase in imported tropical infectious diseases in our environment.

For this reason, it is necessary to have highly qualified doctors, capable of keeping up to date with the latest developments in this type of pathologies and the best therapies to solve them.

One of the advantages of this course is that, as it is a 100% online training, the professional will be able to decide when and from where to study, without commitments or obligations, thus being able to combine his or her study time with the rest of his or her daily obligations.

This **Postgraduate Certificate in Infectious Diseases and Microbiology in the Emergency Room** contains the most complete and up-to-date program on the market.

The most important features of the program include:

- ♦ The development of clinical cases presented by experts in infectious diseases and microbiology.
- ♦ The graphic, schematic, and eminently practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice.
- ♦ Therapeutic developments on intervention in infectious diseases.
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning.
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course.
- ♦ Special emphasis on research 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.

“Superior training for high-level professionals who want to give a plus in the care of their patients”

“

This Postgraduate Certificate is the best investment you can make in the selection of up-to-date program for two reasons: in addition to updating your knowledge in Infectious Diseases and Microbiology, you will obtain a Postgraduate Certificate from TECH ”

Its teaching staff includes professionals belonging to the field of Infectious Diseases and Microbiology in the Emergency Room, who contribute their work experience to this training, as well as renowned specialists from leading scientific societies.

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 an immersive training experience designed to train for real-life situations.

This program is designed around Problem Based Learning, whereby the physician must try to solve the different professional practice situations that arise during the academic year. For this, the professional will be assisted by an innovative interactive video system developed by recognized experts in the field of infectious diseases and microbiology in the Emergency Department, with extensive teaching experience.

Increase your decision-making confidence by updating your knowledge through this program.

Take the opportunity to learn about the latest advances in infectious diseases and microbiology in the emergency department and improve your patient care.



02 Objectives

The Postgraduate Certificate in Infectious Diseases and Microbiology in the Emergency Room is aimed at facilitating the performance of the physician dedicated to the treatment of urgent infectious pathology in all areas, but especially in the emergency department.



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We give you the opportunity to achieve academic excellence thanks to this specialized course in infectious diseases and microbiology"



General Objectives

- Provide the theoretical knowledge necessary to understand the environment in which professional care is given to patients with infectious diseases.
- Provide the appropriate treatment in the different cases of infectious diseases.
- Gain in-depth understanding of the areas in which professionals must be trained, in order for them to be able to provide the best practice when treating infectious diseases.



Take advantage of the opportunity and take the step to get up to date on the latest developments in Infectious Diseases and Microbiology in the Emergency Room"





Specific Objectives

- ♦ Define virulence factors and toxins.
- ♦ Identify the main human pathogens in our environment.
- ♦ Explain the different current scenarios of infection in the emergency room.
- ♦ Describe the etiopathogenic profiles of bacterial infection.
- ♦ Describe the etiopathogenic profiles of viral infection.
- ♦ Describe the etiopathogenic profiles of fungal infections.
- ♦ Describe the etiopathogenic profiles of microbacterial infections.
- ♦ Describe the etiopathogenic profiles of parasitic infections.
- ♦ Describe the process of collecting specimens.
- ♦ Define which specimens are most commonly requested in the emergency room.
- ♦ Explain the collection of specimens in patients with devices.
- ♦ Describe the management of specimens in the laboratory.
- ♦ Explain the clinical significance of bacterial resistance.
- ♦ Define the techniques available for emergency diagnoses.
- ♦ Describe the interpretation of preliminary results.
- ♦ Explain the analytical interpretation of the different types of samples.
- ♦ Define the procedures in hospitals without on-call microbiologists.
- ♦ Explain the diagnostic techniques that can possibly be performed in the emergency laboratory.

03

Course Management

The program includes in its teaching staff leading specialists in Infectious Diseases and Emergency Microbiology and other related areas, who bring their work experience to this training. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner.



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Learn from leading professionals in the field of infectious diseases about the main developments in this field”

Management



Dr. García del Toro, Miguel

- ♦ PhD in Medicine from the University of Valencia
- ♦ Head of the Infectious Diseases Service at the Consortium General University Hospital in Valencia.
- ♦ 50 national and international publications in journals and books, 33 of them indexed in Pubmed and/or Scopus.
- ♦ President Congress of the National Group for the Study of Hepatitis of the Society for Infectious Diseases and Clinical Microbiology 2017
- ♦ More than 200 communications to National and International Congresses in the specialty of Infectious Diseases, HIV and Viral Hepatitis.
- ♦ Principal Investigator of some thirty Clinical Trials and/or Research Projects and collaborating researcher.



Dr. García Rodríguez, Magdalena

- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Internal Medicine
- ♦ Attending Physician in the Infectious Diseases Unit and the Consorcio General Hospital Valencia
- ♦ Head of the International Health and Travel Advice Section
- ♦ Author of several publication and research projects
- ♦ Founding member and advisor of the Chagas Disease Association of the Valencian Community
- ♦ Member of a vaccine study group for the Spanish Society of Infectious Diseases and Clinical Microbiology.
- ♦ Member of a Malaria study group for the Spanish Society of Infectious Diseases and Clinical Microbiology.



Dr. Ricart Olmos, María del Carmen

- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Internal Medicine
- ♦ Attending Physician in the Infectious Diseases Unit and the Consorcio General University Hospital, Valencia
- ♦ Author of several publication and research projects
- ♦ Editor of the Consensus Document on Age and Human Immunodeficiency Virus Infection Expert Group of the Secretariat of the National AIDS Plan (SPNS), Spanish Society of Geriatrics and Gerontology (SEGG).
- ♦ Master's Degree in Infectious Diseases in Intensive Care

04

Structure and Content

The structure of the contents has been designed by a team of professionals from the best hospitals and universities in the country, aware of the relevance of current training to intervene in the treatment and monitoring of infectious diseases and microbiology in the emergency room and committed to quality teaching through new educational technologies.



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*This course contains the most complete
and up-to-date scientific program on the
market"*

Module 1. Up-to-date Information on Infectious Diseases

- 1.1. Principles of Infection.
 - 1.1.1. Virulence Factors and Toxins.
 - 1.1.2. Defensive Mechanisms of the Host.
- 1.2. Main Human Pathogens in our Environment.
 - 1.2.1. Current Epidemiology of the Infection.
 - 1.2.2. Data on a Worldwide Level.
 - 1.2.3. Data in our Environment.
 - 1.2.4. Microbial Resistance
- 1.3. Current Scenarios of Infection in the Emergency Department.
 - 1.3.1. Elderly Patients
 - 1.3.2. Oncology Patients
 - 1.3.3. Chronic Renal Patients on Dialysis.
 - 1.3.4. Transplant Recipient.
 - 1.3.5. HIV Infection
 - 1.3.6. Travellers and Immigrants.
- 1.4. Etiopathogenic Profiles of Infection.
 - 1.4.1. Bacterial Infections.
 - 1.4.2. Viral Infections.
 - 1.4.3. Fungal Infections.
 - 1.4.4. Microbacterial Infections.
 - 1.4.5. Parasitic Infections.





Module 2. The Microbiology Laboratory in the Emergency Room

- 2.1. Process of Sample Collection.
 - 2.1.1. General Considerations for Taking, Conserving and Transporting the Samples for Microbiological Study.
 - 2.1.2. Material for Sample Collection.
- 2.2. Management of Samples in the Laboratory.
 - 2.2.1. Receiving Samples
 - 2.2.2. Processing.
 - 2.2.3. Methods and Techniques used for Microbiological Diagnosis According to the Main Infectious Syndromes.
- 2.3. Techniques Available for Emergency Diagnoses.
 - 2.3.1. Bacteria.
 - 2.3.2. Virus.
 - 2.3.3. Fungi.
 - 2.3.4. Mycobacteria.
 - 2.3.5. Parasites.
- 2.4. Interpretation of Preliminary Results.
 - 2.4.1. Interpretation of Microbiological Diagnostic Tests.
- 2.5. Procedures in Hospitals Without On-call Microbiologists.
 - 2.5.1. Disadvantages of Not Having an On-call Microbiologist.
 - 2.5.2. Advantages of Having an On-call Microbiologist.
 - 2.5.3. On-call Care without a Microbiologist.

05

Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used 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 Re-learning, 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

In a given situation, what would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you can 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 potential 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 professional medical 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 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 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.



Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.

The physician 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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

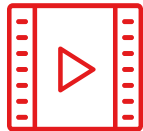
With this methodology we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Re-learning 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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by our learning system is 8.01, according to the highest international standards.

In this program you will have access to the best educational material, prepared with you 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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



Latest 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 this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



Interactive Summaries

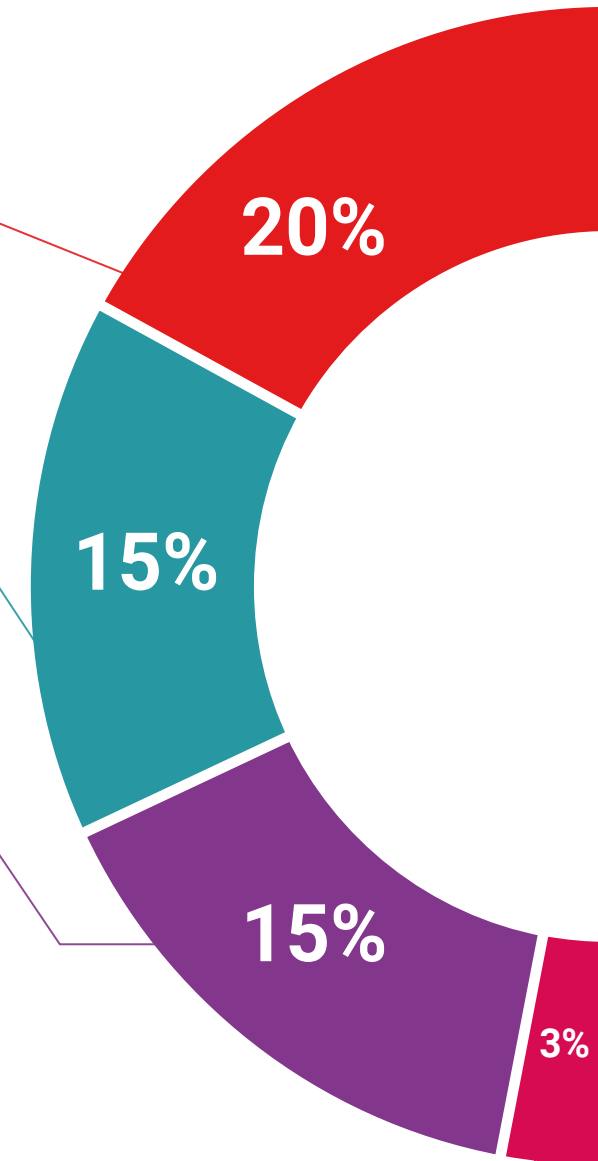
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

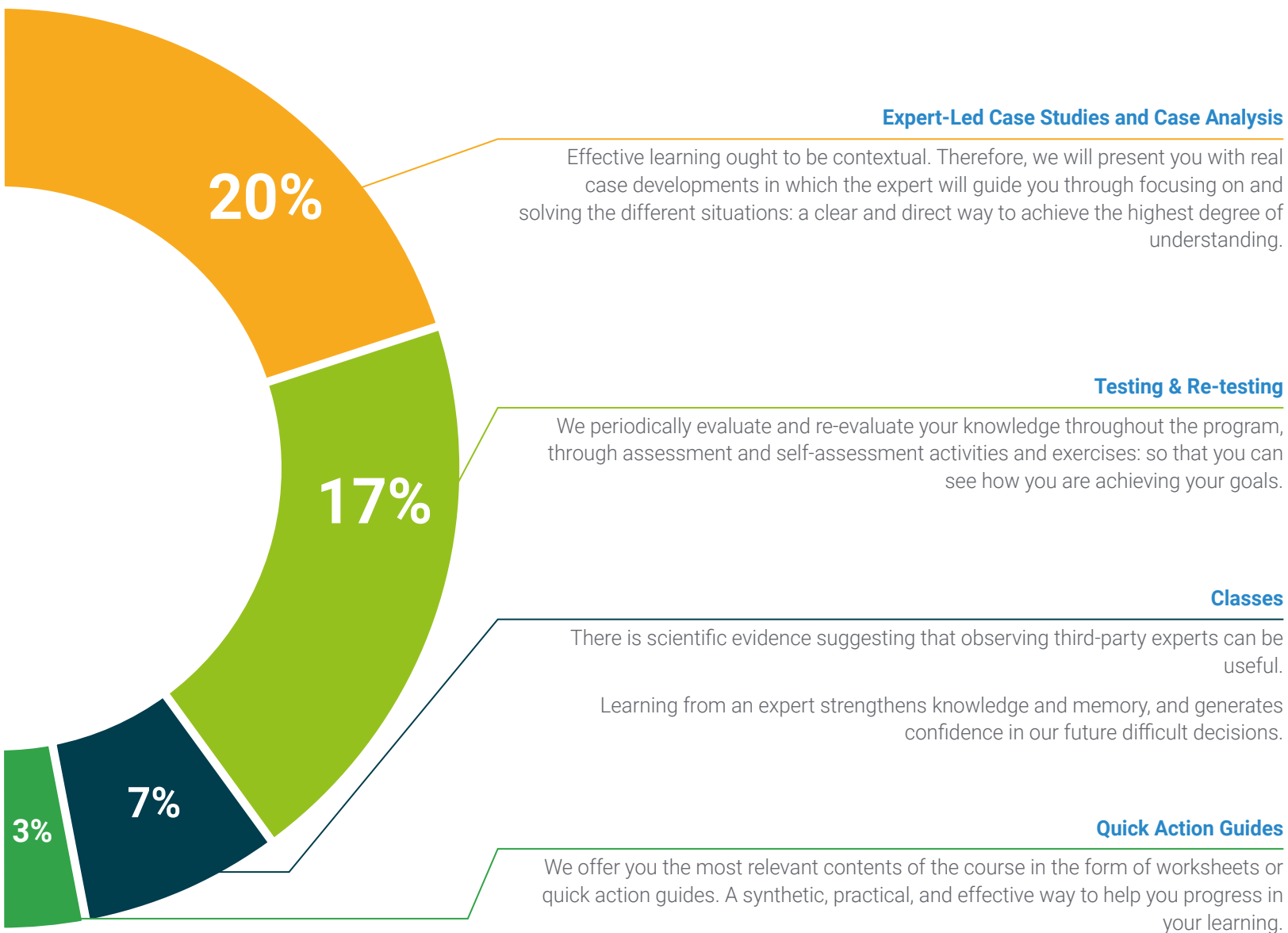
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



Additional Reading

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.





06

Certificate

The **Postgraduate Certificate in Infectious Diseases and Microbiology in the Emergency Room** guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Global University



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Successfully complete this training and receive your university degree without travel or laborious paperwork”.

This program will allow you to obtain a **Postgraduate Certificate in Infectious Diseases in the Pediatric Emergency Department** 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 Certificate in Infectious Diseases and Microbiology in the Emergency Room

Accreditation: 7 ECTS

Official Number of Hours: 200



future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present
online training
development languages
virtual classroom



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