

Postgraduate Certificate

Respiratory Emergencies in the PICU





Postgraduate Certificate Respiratory Emergencies in the PICU

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

Website: www.techtute.com/us/medicine/postgraduate-certificate/respiratory-emergencies-picu

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01

Introduction

In the Pediatric Intensive Care Unit, the management of Respiratory Emergencies represents a critical challenge that requires extensive knowledge, advanced technical skills and a rapid and precise approach. These situations, which can arise suddenly in children with a variety of medical conditions, demand an immediate and coordinated response from a highly skilled multidisciplinary team. Each respiratory emergency presents a unique set of challenges and therapeutic requirements. Therefore, TECH, based on the demands and requirements of physicians to specialize while continuing to develop their professional work, has designed this 100% online course. In addition, they will have at their disposal analysis of real case studies, to acquire a comprehensive view.





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Thanks to this 100% online Postgraduate Certificate, you will acquire the essential skills to effectively treat any Respiratory Emergency in the Pediatric Intensive Care Unit”

According to the World Health Organization, Respiratory Emergencies are one of the main causes of admission to Pediatric Intensive Care Units (PICU), representing approximately 40% of critical cases. These events can affect any patient, from premature newborns to adolescents with chronic or acute respiratory conditions.

Dealing with these situations requires not only advanced technology and state-of-the-art treatment protocols, but also a multidisciplinary team of committed and highly specialized professionals. Each emergency is unique, demanding a rapid, coordinated and expert response to stabilize the user and minimize long-term complications. Likewise, support for both children and their families is essential. In times of crisis it is essential to provide a comprehensive care environment, so it is necessary for physicians to be specialized in emotional intelligence.

In this sense, TECH has designed this Postgraduate Certificate to provide physicians with an in-depth knowledge of different pathologies, such as Bronchiolitis or Pulmonary Hypertension. It will also delve into Chronic Respiratory Diseases and the methods of care for patients with chronic respiratory diseases. Likewise, professionals will be prepared to face crisis situations, analyzing invasive and non-invasive mechanical ventilation, as well as Tracheal Intubation or Tracheotomy.

On the other hand, graduates will be specialized through the innovative Relearning methodology, in which TECH is a pioneer, and which consists of the reiteration of the most relevant concepts for their internalization. In addition, they will be provided with quality, interactive and multimedia teaching material, through which they will be able to acquire an updated vision, from any electronic device with Internet access.

This **Postgraduate Certificate in Respiratory Emergencies in the PICU** contains the most complete and up to date scientific program on the market. The most important features of the program include:

- ♦ The development of practical cases presented by experts in Respiratory Emergencies in the PICU
- ♦ 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



Update your knowledge through the innovative Relearning methodology, which consists in the internalization of the most relevant concepts through repetition"

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You will delve into oxygenation techniques, as well as respiratory therapies, and you will acquire skills to perform a Tracheotomy in cases of crisis, all through an extensive library of multimedia resources”

The program's teaching staff includes professionals from the field 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

Position yourself as a reference professional in the treatment of Respiratory Emergencies and Acute Chronic Pathologies with TECH, thanks to the best didactic materials, at the forefront of education and technology.

Get up to date through the analysis of real case studies and the latest in multimedia and interactive material, from the best digital university in the world, according to Forbes.



02 Objectives

Thanks to the rigorous syllabus of this Postgraduate Certificate, doctors will update their knowledge, obtaining a qualification of excellence and a deep knowledge of neonatal physiology and its particularities. In this sense, they will be specialized to manage the complications associated with the different Chronic Respiratory Pathologies in times of emergency, as well as to interpret diagnostic tests and determine effective treatments. In addition, professionals will be prepared to treat Respiratory Insufficiencies in pediatric patients.





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You will obtain comprehensive specialization in noninvasive and invasive mechanical ventilation programming, with the support of the revolutionary learning methodology known as Relearning”



General Objectives

- ♦ Provide a comprehensive understanding of the essential principles of pediatric intensive care
- ♦ Recognize and evaluate Acute Respiratory Failure
- ♦ Become familiar with the modes of Invasive and Non Invasive Mechanical Ventilation
- ♦ Integrate Intervention Protocols based on the best scientific evidence



Reach your most demanding professional goals, thanks to a university program that will offer you the highest guarantees of quality and commitment”





Specific Objectives

- Recognize the signs and symptoms of Acute Respiratory Failure in pediatric patients
- Implement airway management in emergency situations, including Endotracheal Intubation
- Manage the complications associated with Chronic Respiratory Disease in the context of an emergency
- Interpret the results of diagnostic tests, including arterial blood gases and imaging studies
- Develop the most frequent ventilatory modes in VMC
- Determine the indications and contraindications of NIV
- Understand the pathophysiology of bronchiolitis and the pathophysiology of status asthmaticus
- Identify Pediatric Acute Respiratory Distress Syndrome
- Become familiar with the patient with Chronic Respiratory Pathology in PICU
- Understand the pathophysiology and treatment of Pulmonary Hypertension

03

Course Management

In order to guarantee students a specialization through a reference Postgraduate Certificate, TECH has selected a distinguished teaching staff. In fact, these professionals have a long professional career and an academic and research background of reference. Therefore, they will be in charge of providing graduates with a comprehensive and practical vision on Respiratory Emergencies in the PICU, from an updated and innovative context.



A healthcare professional in teal scrubs is leaning over a patient in a hospital bed. The patient's head is visible in the bottom left corner. The background shows a clinical setting with medical equipment.

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A prestigious teaching staff, with extensive work experience and a solid academic background, will guide and support you in developing your professional career”

Management



Dr. Ocete Hita, Esther

- ♦ Head of the Pediatric Hospitalization Section of Virgen de las Nieves University Hospital of Granada
- ♦ FEA Pediatrics in the Pediatric Intensive Care Unit of Virgen de las Nieves University Hospital of Granada
- ♦ Associate Professor in the Faculty of Medicine at the University of Granada
- ♦ Specialist Pediatrician
- ♦ Doctor of Medicine
- ♦ Degree in Medicine

Professors

Dr. Miñambres Rodríguez, María

- ♦ Pediatric Intensivist in the PICU of the Hospital Virgen de la Arrixaca, Murcia
- ♦ Member of the Respiratory Working Group of the Spanish Society of Pediatric Intensive Care (SECIP) and the European Society of Paediatric and Neonatal Intensive Care (ESPNIC)
- ♦ Author of several chapters of the Pediatric and Neonatal Ventilation manual of the Respiratory Working Group of the Spanish Society of Pediatric Intensive Care (SECIP)
- ♦ Specialist in Pediatrics and its Specific Areas, with a subspecialty in Pediatric Intensive Care, La Fe Children's Hospital, Valencia
- ♦ Degree in Medicine from the University of Salamanca

Dr. Leal Barceló, Andrea María

- ♦ Adjunct Physician at the CIP Unit of the Virgen de la Arrixaca University Hospital, Murcia
- ♦ Fellowship in Pediatric Intensive Care at The Hospital for Sick Children, Canada
- ♦ Rotation in Pediatric Transport at Vall d'Hebron University Hospital, Barcelona
- ♦ Rotation in the Department of Anesthesiology at the Pediatric Hematology and Oncology Center of D. Rogachev, Moscow
- ♦ Rotation in Intensive Care at the Hospital de Niños Dr. Ricardo Gutiérrez, Buenos Aires
- ♦ Specialist in Pediatrics, Gregorio Marañón General University Hospital
- ♦ Degree in Medicine from the University of Murcia

D. Cano Padilla, Francisco Javier

- ♦ President of the Pediatric Nursing Association of the Region of Murcia (AEPENUR)
- ♦ Pediatric Nurse in the Pediatric Intensive Care Unit from the Virgen de la Arrixaca University Hospital, Murcia
- ♦ Pediatric Nurse in the Pediatric Intensive Care Unit of the Hospital Vall d'Hebron, Barcelona.
- ♦ Pediatric Nurse in the Pediatric Intensive Care and Neonatal Intensive Care Units of the Virgen de las Nieves University Hospital of Granada
- ♦ Pediatric Nurse in the Pediatric Emergency Department of the Hospital Universitario Virgen de la Arrixaca, Murcia
- ♦ Vocal Representative of Residents at the Virgen de las Nieves University Hospital, Granada
- ♦ Master's Degree in Genetic, Nutritional and Environmental Determinants of Growth and Development by the University of Granada
- ♦ Specialist in Pediatrics via EIR at the Virgen de las Nieves University Hospital of Granada
- ♦ Graduate in Nursing from the University of Murcia

Dr. Sánchez Martínez, Francisco

- ♦ Assistant Physician in the PICU of the University Clinical Hospital Virgen de la Arrixaca, Murcia
- ♦ Volunteer Pediatrician at the NGO Cirugía Solidaria, Dahra, Senegal
- ♦ Rotation in the Pediatric ICU of the Hospital Vall d'Hebron, Barcelona
- ♦ Specialist in Pediatric Intensive Care at the Virgen de las Nieves Maternal Hospital, Granada
- ♦ Specialist in Pediatrics and its Specific Areas at the Virgen de las Nieves Maternity and Children's Hospital, Granada
- ♦ Master's Degree in Genetic, Nutritional and Environmental Determinants of Growth and Development by the University of Granada
- ♦ Master's Degree in Neonatology by the Catholic University of Valencia
- ♦ University Expert in Pediatric Emergency Medicine from the Catholic University of Valencia
- ♦ Degree in Medicine from the University of Seville



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

The syllabus of this Postgraduate Certificate has been designed in an exhaustive manner, taking into account the most relevant aspects of the area of Respiratory Emergencies, as well as the proposals and requirements of the teaching staff. Likewise, a syllabus has been established in which graduates will be able to update their theoretical knowledge and deepen their practical implications. To this end, emphasis will be placed on the types of pathologies, as well as on the different methods for treating patients in cases of crisis.



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A syllabus of excellence, with the most attractive and complete content on the academic scene”

Module 1. Respiratory Emergencies in the Pediatric Intensive Care Unit

- 1.1. Acute Respiratory Failure
 - 1.1.1. Gas Exchange Hypoxemia and Hypercapnia
 - 1.1.2. Oxygenation Techniques
 - 1.1.3. Respiratory Monitoring
 - 1.1.4. Respiratory Therapies Heliox Nitric Oxide
- 1.2. Airway Management
 - 1.2.1. Tracheal Intubation Rapid Intubation Sequence (RIS)
 - 1.2.2. Difficult Airway
 - 1.2.3. Tracheotomy and Cryostomy
 - 1.2.4. Videolaryngoscopy and Bronchoscopy
- 1.3. Invasive Mechanical Ventilation
 - 1.3.1. Respiratory Physiology
 - 1.3.2. Ventilatory Modes
 - 1.3.3. Programming of Mechanical Ventilation
- 1.4. Non-Invasive Mechanical Ventilation
 - 1.4.1. General Information on NIV Material
 - 1.4.2. NIV Programming
 - 1.4.3. Programming Analysis
- 1.5. Bronchiolitis
 - 1.5.1. Epidemiology
 - 1.5.2. Pathophysiology
 - 1.5.3. Treatment
 - 1.5.4. Invasive and Non-Invasive Mechanical Ventilation
 - 1.5.5. Obstructive and Restrictive Pattern
- 1.6. Asthmatic Status
 - 1.6.1. Epidemiology
 - 1.6.2. Pathophysiology
 - 1.6.3. Treatment
 - 1.6.4. Invasive and Non-Invasive Mechanical Ventilation
 - 1.6.5. Aerial Entrapment





- 1.7. Pediatric Acute Respiratory Distress Syndrome (ARDS)
 - 1.7.1. Epidemiology
 - 1.7.2. Pathophysiology
 - 1.7.3. Diagnosis. Differential Diagnosis
 - 1.7.4. Treatment
 - 1.7.5. Prognosis
- 1.8. Chronic Respiratory Diseases in Intensive Care
 - 1.8.1. The Chronic and Complex Chronic Patient in PICU
 - 1.8.2. Exacerbations of Chronic Respiratory Diseases
 - 1.8.3. Care of the Tracheostomized Patient
 - 1.8.4. Switching to Home Mechanical Ventilation
 - 1.8.5. Complementary Treatments
- 1.9. Pleural Effusion Chylothorax. Pneumothorax
 - 1.9.1. Pleural Effusion
 - 1.9.2. Chylothorax
 - 1.9.3. Pneumothorax
 - 1.9.4. Drainage System: Use and Care
- 1.10. Pulmonary Hypertension Drowning Smoke Inhalation
 - 1.10.1. Pulmonary Hypertension
 - 1.10.2. Drowning
 - 1.10.3. Smoke Inhalation



*Specialize 100% online,
comfortably and at your
own pace. What are you
waiting for to enroll?"*

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.

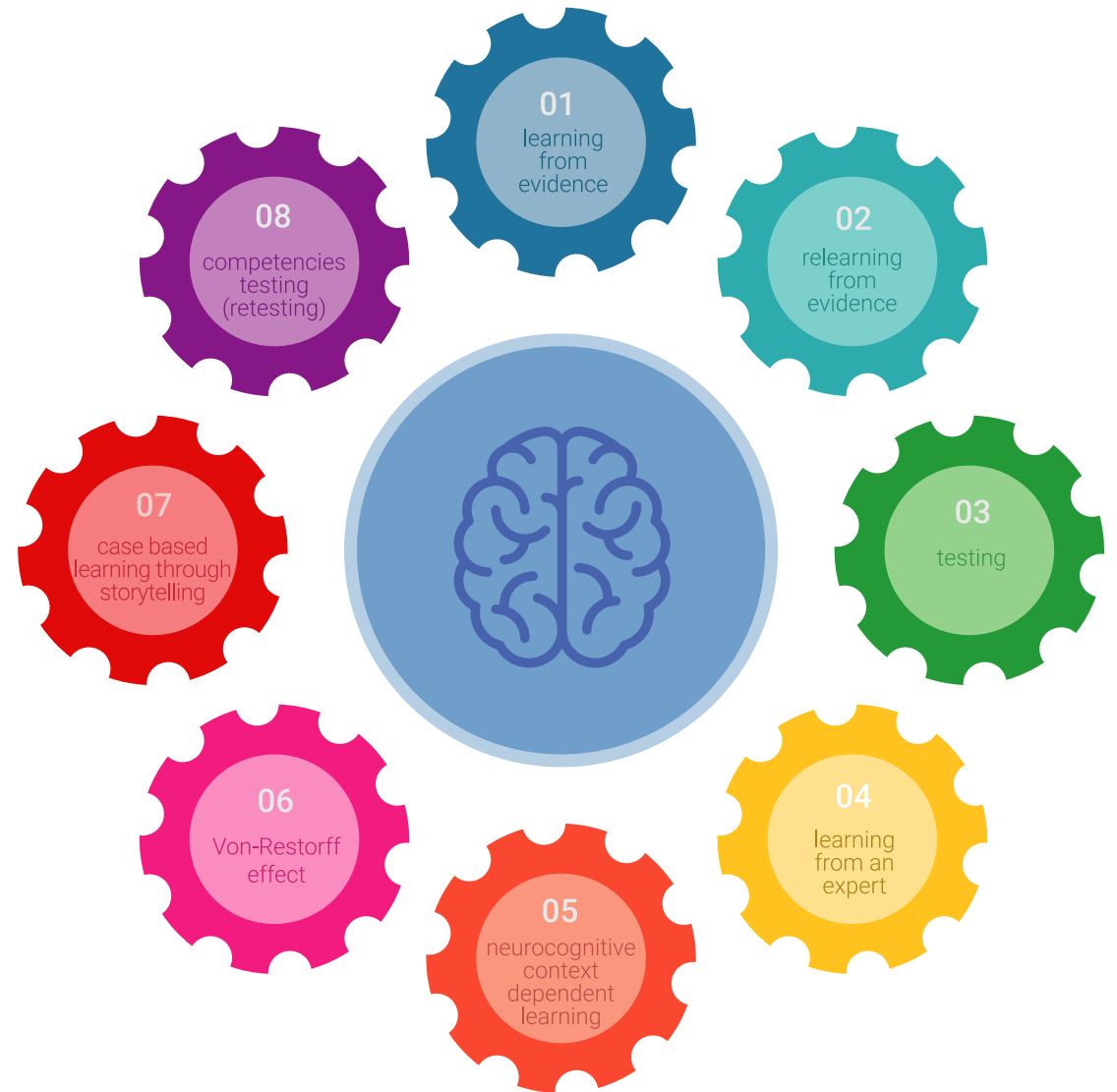


Relearning Methodology

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.

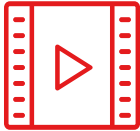
Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

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

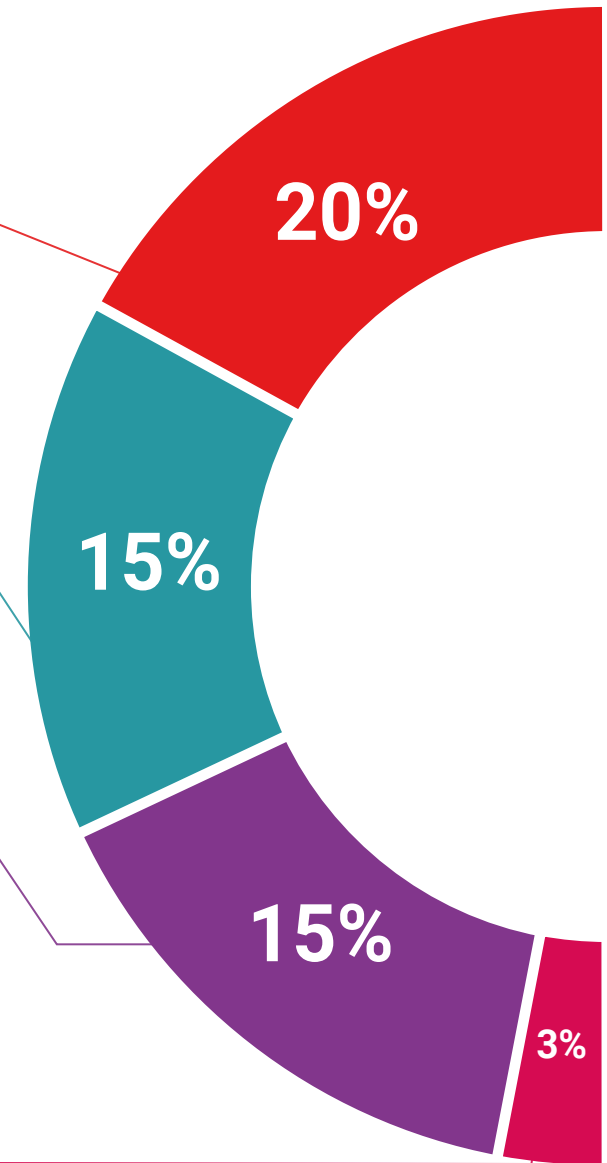
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

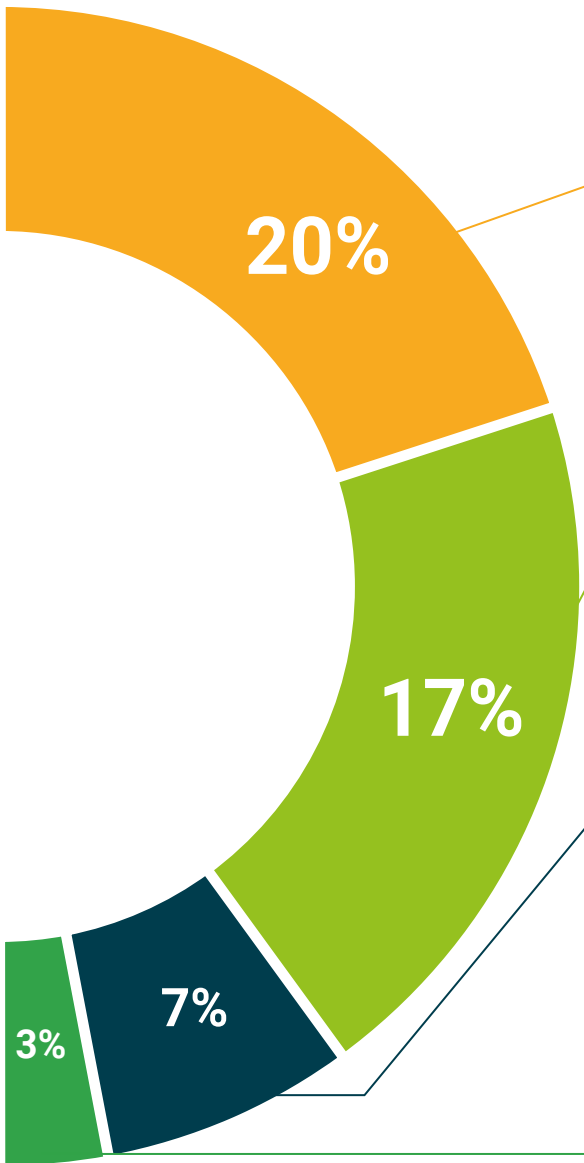
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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

The Postgraduate Certificate in Respiratory Emergencies in the PICU 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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*Specialize 100% online,
comfortably and at your own pace.
What are you waiting for to enroll?"*

This private qualification will allow you to obtain a **Postgraduate Certificate in Respiratory Emergencies in the PICU** 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 Respiratory Emergencies in the PICU**

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
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment



Postgraduate Certificate

Respiratory Emergencies in the PICU

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Postgraduate Certificate

Respiratory Emergencies in the PICU

