

Postgraduate Certificate

Advanced Life Support in the Critically Ill Patient



Postgraduate Certificate Advanced Life Support in the Critically Ill Patient

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/medicine/postgraduate-certificate/advanced-life-support-critically-patient

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 approach of Pulmonary Resuscitation in patients or special situations requires procedures other than those foreseen. Signs of this are cardiac arrest in pregnant women, anaphylactic shock or cases that occur in places of limited space. In this sense, doctors can anticipate such situations, by deducting the specific cases that are most likely to happen. They can then develop manuals to guide them through these exceptional circumstances. For this, it is vital that these experts have a thorough knowledge of the most modern tools in Advanced Life Support. In this context, TECH has developed a 100% online program that will address CPR in unique scenarios.



“

You will analyze the importance of humanization in Life Support and stand out for values such as empathy”

After Cardiopulmonary Resuscitation, various problems can arise that endanger the health of patients. For example, injuries to blood vessels that lead to internal bleeding. Given this, health specialists must completely stabilize these users and achieve adequate brain function. However, this is challenging, due to factors such as rapid diagnosis, as symptoms can vary widely and overlap with other medical problems. In this regard, experts should conduct ongoing research to improve both understanding and treatment of this complex condition.

In order to support them with this work, TECH has implemented an advanced program that will analyze in detail the Post-Reanimation Syndrome (SPR). Prepared by a first level teaching staff, the syllabus will delve into the global management of this condition. In this way, the recommendations in Advanced Life Support of the European Resuscitation Council, considered as the highest body in this matter, will be addressed.

On the other hand, the teaching materials will provide students with the most accurate diagnostic tools to know the status of patients, among which echocardiography stands out. The program will also encourage graduates to demonstrate humanization in health care, enhancing values such as empathy.

It should be noted that the program is taught 100% online, providing flexibility for active professionals looking to improve their skills without interrupting their work responsibilities. In addition, the *Relearning* methodology, consisting of the repetition of key concepts to establish knowledge, will facilitate solid and lasting learning. This combination of online modality and innovative methodology will ensure that students acquire the necessary skills effectively and can apply them with confidence in critical situations of medical practice. In addition, they can enter the Virtual Campus to access a library full of multimedia resources, such as infographics or interactive summaries.

This **Postgraduate Certificate in Advanced Life Support in the Critically Ill Patient** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ Practice cases presented by experts in Advanced Life Support in the Critically Ill Patient
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice.
- ♦ Practical exercises where the process of self-assessment can be used 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



The present university program for present and future challenges in monitoring critical patients"

“

You will address in detail the ERC 2021 recommendations and apply them effectively in your professional practice”

The program’s teaching staff includes professionals from the sector who contribute their work experience to this 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’s design focuses on Problem-Based Learning, through which the professional must try to solve the different professional practice situations that arise during the academic program. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

Looking to get the most out of a pulmonary ultrasound? Master this technique in just 6 weeks thanks to this program.

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



02 Objectives

This program will allow students to acquire the most advanced knowledge in cardiorespiratory arrest and cardiopulmonary resuscitation techniques. In this sense, graduates will understand the pathophysiological bases that condition both procedures. They will also apply the levels of scientific evidence in their work practice for actions with patients suffering from cardiac arrest. In this way, graduates will have at their disposal the most advanced tools to ensure the survival of users.





“

The program will offer an interactive video system that will make your study easier. Learn in a dynamic way!”



General Objectives

- ♦ Develop the concept of Cardiorespiratory Arrest (CRA) and the concept of Cardiopulmonary Resuscitation (CPR).
- ♦ Analyze the concept of Life Support: Basic and advanced
- ♦ Determine the pathophysiological bases that condition CPR.
- ♦ Establish the levels of scientific evidence in relation to the actions to be taken in CPR patients.



The main objective of TECH is to help students acquire academic and professional excellence"





Specific Objectives

- ♦ Analyze and develop aspects of basic CPR and advanced CPR
- ♦ Examine the main causes of CPR
- ♦ Study airway control, ventilation control and circulation control.
- ♦ Analyze the impact of pharmacology applied to CPR.
- ♦ Study periparade arrhythmias
- ♦ Analyze potentially reversible causes
- ♦ Specify the impact of technification within the life support techniques.

03

Course Management

The teaching staff of this Postgraduate Certificate in Advanced Life Support in the Critically Ill Patient is composed of a select group of experts, carefully selected by TECH. These professionals have a recognized background in the medical field, providing valuable practical and theoretical knowledge. In this way, graduates will have the guarantees of a successful apprenticeship that they will apply immediately to their work.





“

*You will achieve an effective updating
thanks to the best teaching material taught
by great experts in Advanced Life Support"*

Management



Dr. Antonio Cardenas Cruz

- Head of the Intensive Care Medicine Department, Motril Hospital
- Director of the Clinical Unit of Critical Care and Emergency Management of the Poniente University Hospital.
- Institute Director of Continuing Education of the Andalusian Society of Intensive Care Medicine and Coronary Universities.
- Training Program Director for Life Support Trainers of the IAVANTE Line of the Progreso y Salud Foundation of the Consejería de Salud y Consumo de la Junta de Andalucía (Andalusian Regional Government).
- Training Program Director for Sedation the IAVANTE Line of the Progreso y Salud Foundation of the Consejería de Salud y Consumo de la Junta de Andalucía (Andalusian Regional Government).
- Head of Critical Care and Emergency Department, Hospital Universitario de Poniente.
- Professor of Medicine
- Degree in Medicine and Surgery from the UGR.
- PhD in Medicine and Surgery, UGR
- Specialist in Intensive Care Medicine.

Professors

Dr. Parias Ángel, María Nieves

- ◆ Specialist Physician of the Provincial Service 061 of Cordoba
- ◆ Head of the Intensive Care Unit of the Santa Barbara Hospital
- ◆ Professional Master's Degree in Research Methodology in Health Sciences, University of Cordoba
- ◆ Professional Master's Degree in Infectious Diseases in Intensive Care, University of Navarra
- ◆ Professional Master's Degree in Epidemiology and Public Health
- ◆ Degree in Medicine and Surgery from the University of Cordoba
- ◆ Responsible for the Project for the Creation of a Cardioprotected Municipality in Puertollano

Dr. Matallana Zapata, Diego Fernando

- ◆ Specialist in Intensive Care Medicine at the University Hospital Ciudad de Jaén
- ◆ Primary Care Physician in Outpatient, Emergency and Hospitalization
- ◆ Primary Care Physician in Emergencies and assistant in the operating room
- ◆ Professional Master's Degree in Clinical Ultrasound by the International University of Andalusia
- ◆ Professional Master's Degree in Research, Innovation and Quality of Life, University of Jaén
- ◆ Author of *Critical Ultrasound in shock, what every physician should know*

Mr. Bracero Jiménez, Antonio

- ◆ Nurse in the Intensive Care Unit at Reina Sofía University Hospital, Córdoba
- ◆ Specialist in Critical Patient Transport
- ◆ Coordinator and Teacher of modules in the Professional Master's Degree in Emergency Nursing and Emergencies
- ◆ Professional Master's Degree in Emergency Nursing, Catastrophes and Humanitarian Aid from the University of Seville
- ◆ University Diploma in Nursing at the University of Cordoba

Dr. Rivera Rubiales, Gloria

- ◆ Specialist in Intensive Care Medicine at the University Hospital of Jerez
- ◆ Intensive Care Physician in the Intensive Care Unit at the Virgen del Rocío University Hospital
- ◆ Professional Master's Degree in Clinical Ultrasound for Emergency and Critical Care by CEU Cardenal Herrera University
- ◆ Official Master's Degree in Biomedical Research from the University of Seville
- ◆ Official Master's Degree in Biomedical Research from the Institute of Biomedicine of Seville
- ◆ International Expert in Methodology Applied to noninvasive mechanical ventilation

Dr. Navarro Guillamón, Laura Carmen

- ◆ Specialist in Intensive Care Medicine at the Poniente Hospital
- ◆ Doctor of Intensive Care Medicine at the Virgen de las Nieves University Hospital in Granada
- ◆ Official Doctoral Program in Advances in Medicine and Dermatology by the International Postgraduate School of the University of Granada
- ◆ Professional Master's Degree in Intensive Care by the Catholic University of Valencia "San Vicente Mártir"
- ◆ Degree in Medicine from the University of Malaga



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

This study plan will delve into the aspects that define serious patients and will be addressed in the particularities to face the global management of this type of users. In this sense, the syllabus will analyze the most innovative tools in Advanced Life Support, among which those aimed at ventilation stand out. The teaching materials will also address the pathophysiological phases of the main syndromic symptoms, which can trigger an episode of Cardiorespiratory Arrest. Current recommendations of the *European Resuscitation Council* for the treatment of patients will also be presented.



“

You will delve into the CPR in special situations, offering personalized services according to needs of users”

Module 1. Advanced Life Support in the Critically Ill Patient

- 1.1. International Recommendations
 - 1.1.1. CPR
 - 1.1.2. Basic and Advanced CPR
 - 1.1.3. Basic and Advanced Life Support
- 1.2. Advanced Life Support (ALS)
 - 1.2.1. Airway
 - 1.2.2. Ventilation
 - 1.2.3. Circulation: Basic and Advanced Monitoring. Pharmacology
- 1.3. Advanced Arrhythmia Control
 - 1.3.1. Pre-stop
 - 1.3.2. CPR-inducing Rhythms
 - 1.3.3. Post-arrest Rhythmias
- 1.4. Analysis of Potentially Reversible Causes
 - 1.4.1. Analysis of Potentially Reversible Causes
 - 1.4.2. 4 H
 - 1.4.3. 4 T
- 1.5. Cardiopulmonary Resuscitation in Special Situations
 - 1.5.1. Special Patients
 - 1.5.2. Extreme Situations
 - 1.5.3. Special Environments: Assistance and Non Assistance
- 1.6. Elements Associated with Life Support
 - 1.6.1. Legal Aspects
 - 1.6.2. Humanization in Life Support
 - 1.6.3. Donation and Life Support
- 1.7. Image Support
 - 1.7.1. Scientific Evidence
 - 1.7.2. Echocardiography
 - 1.7.3. Pulmonary Ultrasound Scan



- 1.8. Non-cognitive Aspects of Life Support
 - 1.8.1. Humanization in Life Support
 - 1.8.2. Support to Life Support Teams
 - 1.8.3. Support to Family Members
- 1.9. Post CPR Syndrome
 - 1.9.1. Post CPR Syndrome
 - 1.9.2. Global Management of Post CPR Syndrome
 - 1.9.3. Levels of Scientific Evidence Associated with Post CPR Syndrome Management
- 1.10. ERC 2021 Recommendations
 - 1.10.1. Basic Life Support (BLS) Recommendations
 - 1.10.2. Advanced Life Support (ALS) Recommendations
 - 1.10.3. Algorithms of action for patients with CRP

“

This online methodology will allow you, through real clinical cases, to practice in simulated environment”

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.





“

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.

“

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 Advanced Life Support in the Critically Ill Patient guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



“

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This **Postgraduate Certificate in Advanced Life Support in the Critically Ill Patient** contains the most complete and up-to-date scientific on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Advanced Life Support in the Critically Ill Patient**
Official N° of Hours: **150 h.**



*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.



Postgraduate Certificate

Advanced Life Support
in the Critically Ill Patient

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Postgraduate Certificate

Advanced Life Support
in the Critically Ill Patient