

# Postgraduate Diploma Advanced Life Support





## Postgraduate Diploma Advanced Life Support

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 22 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-advanced-life-support](http://www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-advanced-life-support)

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# 01

# Introduction

The constant updating of ILCOR recommendations, as well as technological advances, make it essential for professionals who care for them to keep up to date in advanced life support maneuvers. This Postgraduate Diploma in Advanced Life Support offers the possibility of updating necessary knowledge to improve medical action in the face of cardiac arrest and improve the patient's prognosis.





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*The new ILCOR recommendations force us to propose up-to-date training programs that meet the real needs of experienced professionals, in order to incorporate the new criteria in Advanced Life Support techniques"*

Cardiorespiratory arrest is one of the leading causes of death in the Western world, and there is sufficient evidence to show that early recognition of the situation, activation and appropriate response of emergency systems, and early initiation of CPR and defibrillation can reduce mortality and its sequelae.

Survival in sudden cardiac arrest is determined by the quality of the scientific evidence supported by international guidelines or recommendations such as that published by the *International Liaison Committee on Resuscitation* (ILCOR) in the International Consensus on the Science of Cardiopulmonary Resuscitation and Emergency Cardiovascular Care with Treatment Recommendations (CoSTR).

The syllabus of this Postgraduate Diploma has been designed with the aim of updating professionals' knowledge in Advanced Life Support based on the quality and safety standards of ILCOR, and oriented to the specific training for medical professionals seeking to be up to date in this area.

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

- Clinical cases presented by experts in advanced life support
- The graphic, schematic and practical contents of the course are designed to provide all the essential information required for professional practice
- It contains exercises where the self-assessment process can be carried out to improve learning
- Interactive learning system based on algorithms for decision making in cardiorespiratory arrest situations and patient life support
- All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is available from any fixed or portable device with an internet connection



*Make the most of this moment and take the step to get up to date on the ILCOR recommendations for quality performance in cardiorespiratory arrest and the maintenance of life support in the patient"*

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*This Postgraduate Diploma is the best investment you can make when selecting a refresher program for two reasons: in addition to updating your knowledge in Advanced Life Support, you will obtain a Postgraduate Diploma from TECH Global University"*

*The course includes real clinical cases and exercises to bring the development of the course closer to the daily clinical practice.*

*Don't miss this opportunity and choose the best way to keep yourself up to date in order to improve your performance in caring for cardiac arrest patients.*

Its teaching staff includes renowned specialists in the field of Emergency Medicine who bring the experience of their work to this training.

The multimedia content developed with the latest educational technology will provide the physician with situated and contextual learning, i.e., a simulated environment that will provide immersive training programmed to train in real situations.

This program is designed around Problem-Based Learning, whereby the physician must try to solve the different professional practice situations that arise throughout the program. For this reason, you will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field of emergencies with extensive teaching experience.



# 02 Objectives

The main objective of the program is to develop theoretical and practical learning in the techniques and procedures for life support of patients in an emergency situation, so that the physician can rigorously and practically master the complex approach to the situation.





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*This Postgraduate Diploma is designed to help you update your knowledge in Advanced Life Support of patients in a critical state, with the use of the latest educational technology, to contribute with quality and confidence to your decision making skills"*



## General Objective

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- Gain the necessary up-to-date knowledge of caring for a patient in a serious condition, with the aim of improving the quality and confidence of your healthcare practice in accident, emergency and disaster situations

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*A unique, key, and decisive training experience to boost your professional development”*





## Specific Objectives

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### Module 1. General Aspects

- ♦ Differentiate between the concepts of accidents, emergencies and disasters
- ♦ Identify the fundamentals of emergency health care
- ♦ Apply clinical and non-clinical professional skills in emergencies
- ♦ Define the structure and organization of the accident and emergency services
- ♦ Use medical records in the emergency department and understand the most relevant legal and ethical aspects of health care in emergencies
- ♦ Prioritize, organize and manage patient care in the most efficient way through triage
- ♦ Understand the basic workings of an emergency coordination center

### Module 2. Advanced Cardiovascular Support

- ♦ Gain up-to-date knowledge of the process for performing an ECG
- ♦ Interpret the electrocardiogram tracing in emergency situations
- ♦ Apply protocols for medical care in cases of heart rhythm alterations
- ♦ Identify the life-threatening pathophysiological processes
- ♦ Describe the different conditions that cause chest pain and apply the appropriate protocols in each case
- ♦ Recognize the different signs and symptoms typical of ischemic heart disease
- ♦ Apply the specific procedures in Acute Coronary Syndrome and assess the possibility of prehospital fibrinolysis
- ♦ Know how to address congestive heart failure and acute pulmonary edema
- ♦ Correctly use non-invasive mechanical ventilation
- ♦ Know how to address cardiac tamponade and pericardial effusion
- ♦ Describe pericardiocentesis and pericardial drainage techniques

### Module 3. Diagnostic and Therapeutic Techniques

- ♦ Know the main consequences and initial handling of CBRN (Chemical Biological Radiological Nuclear) risk situations
- ♦ Explain new forms of bioterrorism
- ♦ Implement techniques for teamwork, motivation, leadership and dealing with uncertainty in situations

### Module 4. Pharmacology in an Emergency

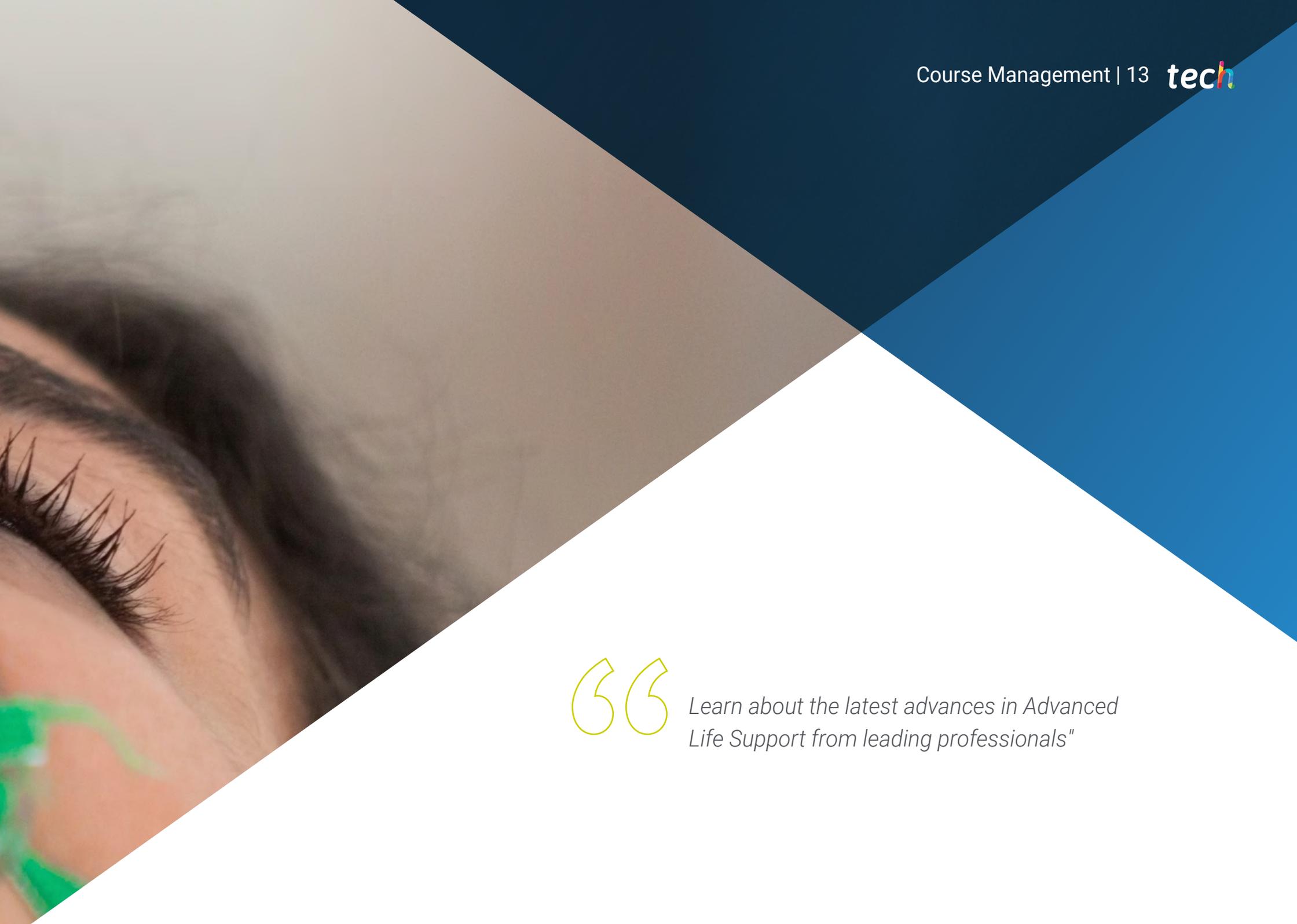
- ♦ Gain up-to-date knowledge of the procedures for the use of drugs frequently used in emergency medicine
- ♦ Identify the main emergency immunological pathologies and gain up-to-date knowledge of how to treat patients suffering from anaphylactic reactions
- ♦ Acquire up-to-date knowledge on how to care for intoxicated patients and injuries caused by environmental agents

03

# Course Management

The materials have been created by a team of renowned professionals, both in the area of hospital and out-of-hospital emergency care, who carry out their professional work in the main hospital centers and emergency care units in the country. Bringing to the program the experience they have gained throughout their careers.





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*Learn about the latest advances in Advanced Life Support from leading professionals”*

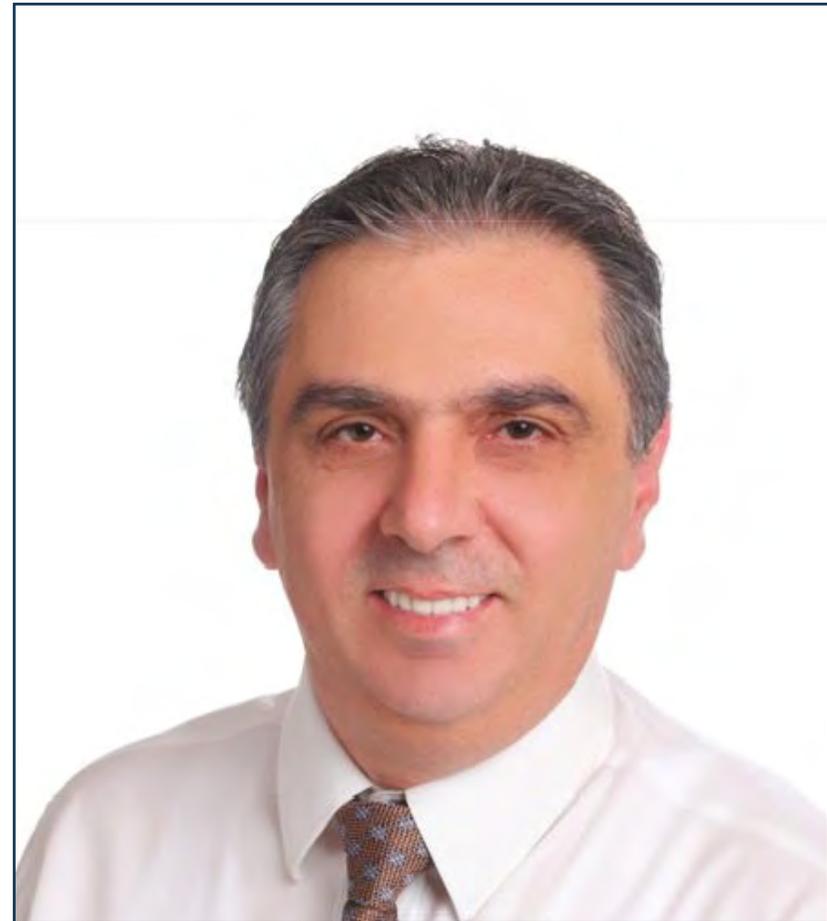
## International Guest Director

Dr. Fadi Salah Issa has become one of the world's leading experts in the field of **Emergency Medicine**. For more than 20 years he has developed a tireless work in this subspecialty of **Urgencies and Emergencies**.

A work that starts from his performance as an emergency physician at the **King Faisal Specialist Hospital & Research Centre**, where he implemented a new system and rapid care facility that reduced waiting times for patients. This allowed him to improve care and more efficiently handle complex cases of oncology, transplant patients and congenital diseases. Thanks to his deep interest in providing the best healthcare response to disaster situations, Salah Issa has turned his efforts to academia and research, promoting specialized and continuous education for medical professionals.

In this regard, he is the **Director of Education for the Disaster Medicine Fellowship** at the BMC Medical Harvard Medical School. A role that joins the co-supervision of the European Disaster Medicine Thesis Board at the University of Eastern Piedmont. His impact in this area has been positive, contributing to the better preparation of health workers. In addition, his concern for humanitarian work has led him to become involved in the **World Association of Disaster and Emergency Medicine (WADEM)**, where he serves as chairman of the special interest group against terrorism.

In this line, his scientific studies also include his analysis of **attacks on educational institutions**, the prevention of post-traumatic stress and the promotion of the resilience of healthcare personnel in the face of COVID-19, **anti-terrorist medicine** and the analysis of variability in the training of expatriate pre-hospital providers in Bahrain



## Dr. Salah Issa, Fadi

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- ♦ Emergency Physician specialized in Emergency Medicine
- ♦ Co-supervisor of the European Disaster Medicine Thesis Board at the University of Eastern Piedmont
- ♦ Director of Education for the BIMC Disaster Medicine Fellowship at Harvard Medical School BIMC Physicians
- ♦ Director of Disaster Preparedness Education Initiatives at Harvard Medical School BIDMC Physicians
- ♦ Research Fellowship in Disaster Medicine at Harvard Medical School
- ♦ Emergency Physician at King Faisal Specialist Hospital & Research Centre
- ♦ Team Leader and Emergency Physician at Armed Forces Hospitals-Southern Region, Khamis Mushayt, KSA
- ♦ Bachelor of Medicine and Surgery, University of Medicine and Pharmacology, Cariova, Romania
- ♦ Disaster Medicine and Emergency Management from Harvard Medical School Medical Doctors in BIDMC
- ♦ Master's Degree in Disaster Medicine from the University of Piemonte Orientale, Italy
- ♦ Chairman of the Counterterrorism Special Interest Group of the World Association of Disaster and Emergency Medicine (WADEM)
- ♦ Fellow of the Academy of Harvard Medical School

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*Thanks to TECH you will be able to learn with the best professionals in the world”*

## Guest Directors



### Dr. Rivera Núñez, María Angélica

- ♦ Assistant Coordinator of the Emergency Department La Paz University Hospital
- ♦ Medical Surgeon Specialist in Internal Medicine
- ♦ Degree in Medicine and Surgery from the Autonomous University of Madrid
- ♦ Diploma in Clinical Teaching- Teacher Training Unit Pontificia Catholic University in Chile
- ♦ Certificate in Emergency Medicine (CME)
- ♦ Training in Thrombotic Pathology Faculty of Medicine, University of Navarra
- ♦ Instructor of Advanced Life Support National Cardiopulmonary Resuscitation Plan of the Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units
- ♦ Director of Patient Safety in the Emergency Department of La Paz University Hospital



### Dr. Torres Santos-Olmo, Rosario María

- ♦ Honorary Professor at the Autonomous University of Madrid
- ♦ Member of the Ethical Care Committee La Paz University Hospital
- ♦ Degree in Medicine and Surgery - University of Granada
- ♦ Specialist in Family and Community Medicine at La Paz University Hospital
- ♦ PhD in Medicine and Surgery from the Autonomous University of Madrid
- ♦ Master's Degree in Medical and Clinical Management
- ♦ Master's Degree in Patient Safety and Health Risk Management.
- ♦ Life Support Instructor (BLS, ALS, ILS, ATLS)
- ♦ Area Specialist of Adult Emergency Department at La Paz University Hospital (Madrid, Spain).
- ♦ Clinical Collaborator at the Autonomous University of Madrid

## Management



### **Dr. Roig D'Cunha-Kamath, Francisco Vicente**

- Degree in Medicine from the University of Valencia
- Specialist via MIR in Family and Community Medicine
- Assistant Physician of the Emergency Medicine Department at the Clinical University Hospital of Valencia
- Professor of Human Anatomy at the European University of Valencia.
- Physician at the Valencia Health and Community Foundation.
- Doctor for the ASCIRES group

## Professors

### Dr. Brasó Aznar, José Vicente

- ◆ Hospital Emergency Physician
- ◆ Associate Professor of Emergency Medicine at the Faculty of Medicine of the University of Valencia
- ◆ Head of Department Emergency Medicine. Ribera University Hospital

### Dr. Martín Quirós, Alejandro

- ◆ Assistant Physician of the High Level Isolation Unit, La Paz University Hospital
- ◆ PhD in Medicine and Surgery from the Autonomous University of Madrid.
- ◆ Masters in Infectious Diseases and Antimicrobial Treatment
- ◆ Master's Degree in Research Methodology in Health Sciences
- ◆ Postgraduate Diploma in Emergency Medicine
- ◆ Postgraduate Diploma in Community-Acquired and Nosocomial Infections
- ◆ Course Teacher of Cardiopulmonary Resuscitation in the Spanish Society of Emergency Medicine (SEMES)
- ◆ Lecturer in Immediate Life Support Course at the Health Council of the Community of Madrid





**Dr. Maroun Eid, Charbel**

- ◆ Collaborative Researcher in R&D Center of the Research Institute of the La Paz Hospital
- ◆ PhD in Biomedical Sciences from the UAM
- ◆ Executive MBA in the pharmaceutical industry and biotechnology
- ◆ Master's Degree in Cardiovascular Risk Prevention
- ◆ Assistant Emergency Physician at Infanta Sofia University Hospital
- ◆ Family and Community Medicine Resident Physician in San Carlos Clinical Hospital
- ◆ Lecturer of Critical Patients and Emergency Medicine course at Autonomous University of Madrid
- ◆ Lecturer of Emergency Medicine at La Paz Hospital

04

# Structure and Content

The structure of the syllabus has been designed by a team of professionals with knowledge of the implications of medical education in the approach to patients with emergency conditions, who are aware of the relevance of the up-to-date specialization, and are committed to quality teaching using new educational technologies.



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*This Postgraduate Diploma in Advanced Life Support is the most complete and up-to-date scientific program on the market”*

### Module 1. General Concepts

- 1.1. Definitions and Concepts
- 1.2. Comprehensive care for medical emergencies and emergencies
- 1.3. Bioethics in urgencies, emergencies and catastrophes

### Module 2. Advanced Cardiovascular Life Support

- 2.1. Basic Life Support in Adults
  - 2.1.1. General Concepts
- 2.2. Advanced Life Support in Adults
  - 2.2.1. Management of Bradyarrhythmia
  - 2.2.2. Management of Tachyarrhythmias
- 2.3. Pediatric Basic Life Support
- 2.4. Pediatric and Neonatal Advanced Life Support
  - 2.4.1. Recognition and Management of the Critically Ill Child
  - 2.4.2. Advanced Airway Management
  - 2.4.3. Basic Concepts of Mechanical Ventilation in Pediatrics
  - 2.4.4. Infusion Access and Medications in Pediatric CPR
  - 2.4.5. Pediatric ALS Algorithms and Arrhythmia Management
- 2.5. Neonatal Resuscitation
  - 2.5.1. Neonatal Stabilization and Transport
- 2.6. Advanced Life Support in Severe Trauma Patients
- 2.7. Advanced Life Support in Special Cases

### Module 3. Diagnostic and Therapeutic Techniques (HEE and Disasters)

- 3.1. Catheterization
- 3.2. Peripheral and Central Venous Access
- 3.3. Intraosseous Access
- 3.4. Endotracheal Intubation (ETI)
- 3.5. Difficult Airway Management
- 3.6. Invasive Mechanical Ventilation
- 3.7. Management of Non-Invasive Mechanical Ventilation

- 3.8. Pericardiocentesis
- 3.9. Thoracentesis and Pleural Drainage
- 3.10. Emergency Ultrasound
- 3.11. Electrical Therapy (Pacemaker, Cardioversion, Defibrillation)
- 3.12. Hemodynamic Monitoring and Electrocardiography
- 3.13. Capnography and Pulse Oximetry
- 3.14. Oxygen Therapy
- 3.15. Neurological Status Monitoring
- 3.16. Sedation and Analgesia Monitoring
- 3.17. Collection of Laboratory Samples
- 3.18. Frequently Used Scales in Emergency Care
- 3.19. Physiological Parameters in Adults and Children

### Module 4. Pharmacology in an Emergency

- 4.1. Basic Concepts
- 4.2. Drug Administration Routes in Accidents and Emergencies
- 4.3. Drug Administration Safety
- 4.4. Fluid Therapy
- 4.5. Most Common Drugs Used in Accident and Emergency Care
- 4.6. Formulas and Dosis Calculation



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*A unique, key, and decisive training experience to boost your professional development”*

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

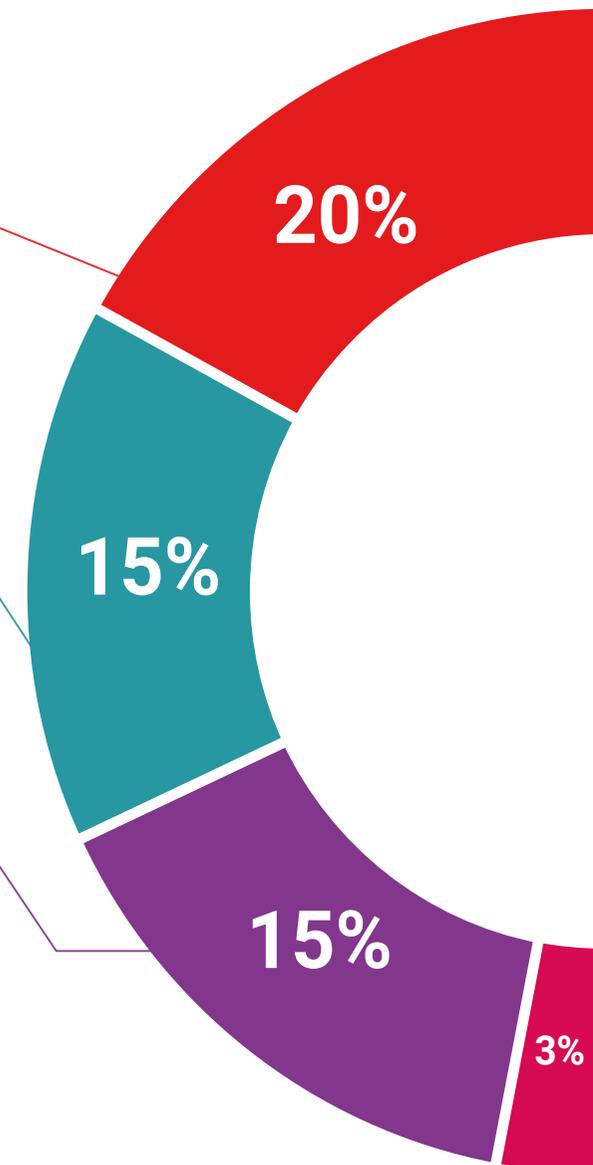
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

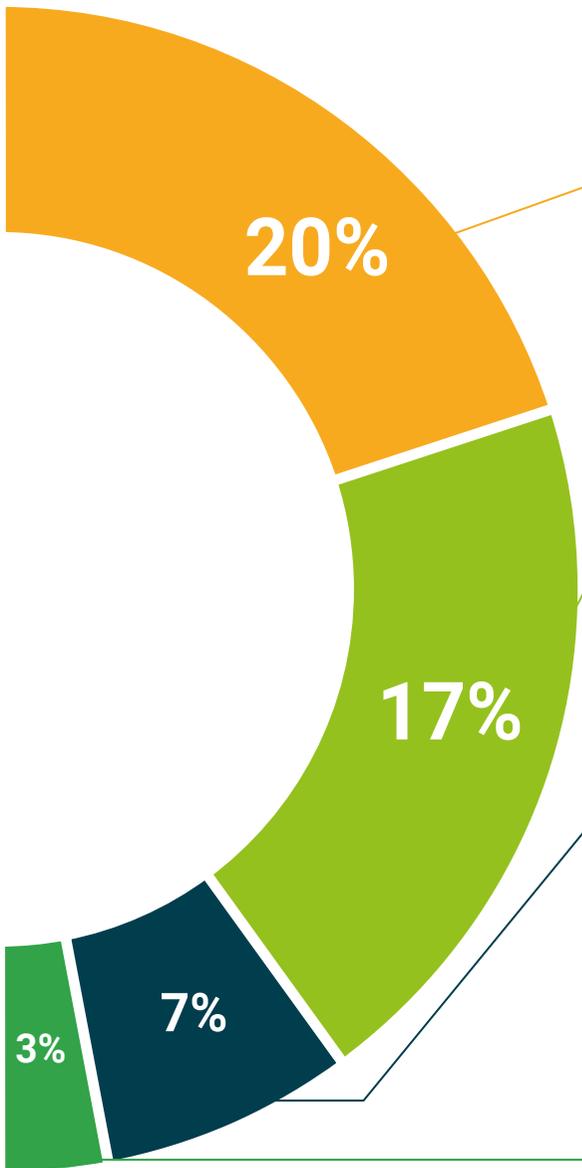
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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 Diploma in Advanced Life Support guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by .





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*Successfully complete this program  
and receive your university degree  
without travel or laborious paperwork”*

This private qualification will allow you to obtain a **Postgraduate Diploma in Advanced Life Support** 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 Diploma in Advanced Life Support**

Modality: **online**

Duration: **6 months**

Accreditation: **22 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  
personalized service innovation  
knowledge present quality  
online training  
development languages  
virtual classroom

**tech** global  
university

**Postgraduate Diploma**  
Advanced Life Support

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 22 ECTS
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Diploma Advanced Life Support