

Postgraduate Certificate

Emergencies and Major Disasters, Life Support, and Diagnostic Techniques in Out-of-Hospital Care





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Emergencies and Major Disasters, Life Support, and Diagnostic Techniques in Out-of-Hospital Care

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Accreditation: 7 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techitute.com/us/medicine/postgraduate-certificate/emergencies-major-disasters-life-support-diagnostic-techniques-out-of-hospital-care



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01

Introduction

Emergencies and Major Disasters are critical events that can quickly overwhelm the capacity of healthcare systems, especially when they occur in out-of-hospital settings. In these situations, it is crucial for specialists to properly manage the different diagnostic techniques and Life Support procedures to ensure the overall well-being of patients. To achieve this, healthcare professionals need to possess a holistic understanding that spans from the initial stabilization of critical patients to the effective coordination of resources in multifaceted scenarios. In this context, TECH presents an innovative qualification focused on the management of disasters involving multiple victims. Furthermore, it is delivered in an online format that allows experts to plan their own schedules.





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Through this Postgraduate Certificate, based on the Relearning methodology, you will master the most advanced diagnostic techniques to respond accurately to Out-of-Hospital Emergency situations”

According to the World Health Organization, more than 17.9 million people die each year from cardiovascular diseases such as myocardial infarctions. In this regard, the organization urges medical professionals to stay at the forefront of both therapeutic techniques and Advanced Life Support procedures to act with precision in severe clinical cases outside of hospital settings. Only by doing so can professionals reduce the risk of complications in patients and significantly increase their chances of recovery.

To assist them in this endeavor, TECH launches a groundbreaking program in Emergencies and Major Disasters, Life Support, and Diagnostic Techniques in Out-of-Hospital Care. The academic itinerary will thoroughly address a wide range of therapeutic procedures such as invasive mechanical ventilation, pleural drainage, and peripheral venous cannulation. In this way, graduates will perform precise evaluations to identify the underlying cause of the medical issue in victims. Moreover, the syllabus will provide experts with the essential skills to manage accidents involving multiple victims, emphasizing the importance of triage to efficiently prioritize limited resources.

To reinforce these concepts, TECH offers experts a 100% online academic environment that will allow them to plan their schedules individually. In line with this, the institution employs its disruptive Relearning methodology, which involves the repetition of key concepts to progressively assimilate them in a natural manner. As such, all that professionals need is an electronic device with internet access to enter the Virtual Campus. There, they will enjoy a virtual library filled with various multimedia resources such as interactive summaries, specialized readings, or explanatory videos. Thanks to this, healthcare professionals will update their knowledge in a dynamic and engaging way.

This **Postgraduate Certificate in Emergencies and Major Disasters, Life Support, and Diagnostic Techniques in Out-of-Hospital Care** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of practical cases presented by experts in emergencies and medical urgencies in out-of-hospital settings
- ♦ 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
- ♦ A 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



A university program that incorporates practical cases in simulated learning environments to train you for real clinical situations"

“

Do you want to incorporate the most innovative monitoring techniques into your daily clinical practice to assess your patients' brain function? Achieve this through this Postgraduate Certificate”

The program's teaching staff includes professionals from the industry 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 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 experts.

With the highest-rated study resources in online education, this program will allow you to make unstoppable progress in your professional growth as a physician.

You will deepen your understanding of advanced airway management and minimize the risk of complications such as respiratory arrest.



02 Objectives

Through this comprehensive university qualification, healthcare professionals will gain a thorough understanding of the management of Emergencies and Major Disasters in Out-of-Hospital Care. In this regard, graduates will acquire advanced skills to perform Advanced Cardiovascular Support procedures to stabilize patients in critical situations. Additionally, professionals will master a wide variety of diagnostic techniques, including catheterizations, electrical therapies, and pericardiocentesis. Thanks to this, specialists will be able to act immediately in critical situations, optimizing patients' conditions and significantly improving their clinical outcomes.





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You will acquire the competencies necessary to lead effective responses to Emergencies and Major Disasters, ensuring both the efficient organization of resources and optimal care for multiple victims”



General Objectives

- ♦ Analyze the management of multiple victim incidents and disasters
- ♦ Identify diagnostic and therapeutic techniques in emergency situations
- ♦ Explore the principles of pharmacology applied to medical emergencies
- ♦ Examine the most innovative emergency protocols and procedures



The interactive summaries of each topic will allow you to dynamically consolidate concepts related to Triage in Multiple Victim Incidents”





Specific Objectives

- ♦ Define the fundamental concepts related to urgencies and emergencies, including comprehensive care
- ♦ Delimit the principles of bioethics applied to emergency and urgent situations, evaluating their importance in medical decision-making
- ♦ Explore the current legislation regarding emergency and urgent care, identifying key regulations and their impact on clinical practice
- ♦ Clarify bioethics and legal knowledge through practical cases in emergencies, ensuring ethically and legally adequate care
- ♦ Identify the essential techniques and procedures for basic and advanced life support in adults, including management of bradyarrhythmias and tachyarrhythmias
- ♦ Describe the principles and methods of basic and advanced life support in pediatric and neonatal patients, focusing on the recognition and management of the critically ill child and advanced airway management
- ♦ Analyze neonatal resuscitation strategies and advanced life support in patients with severe trauma, emphasizing neonatal stabilization and transport
- ♦ Differentiate effective advanced life support interventions in special cases, applying acquired knowledge to provide appropriate and timely treatment
- ♦ Differentiate general concepts related to multiple victim incidents (MVI) and catastrophes, and understand the importance of effective management in these situations
- ♦ Address procedures for sectorization, deployment, and logistics necessary for an organized and efficient response to MVIs and catastrophes
- ♦ Define triage techniques and care for multiple victims, ensuring the proper prioritization of patients based on the severity of their conditions
- ♦ Evaluate emergency plans and evacuation strategies, and manage MVIs in a hospital setting, including responses to NBQR (Nuclear, Biological, Chemical, and Radiological) incidents
- ♦ Analyze invasive and non-invasive procedures such as catheterization, peripheral and central venous cannulation, intraosseous access, and advanced airway management techniques (intubation and difficult airway)
- ♦ Evaluate invasive and non-invasive mechanical ventilation techniques, as well as critical interventions such as pericardiocentesis and thoracocentesis, ensuring their correct application in emergency situations
- ♦ Identify diagnostic tools such as emergency ultrasound, hemodynamic monitoring, electrocardiography, capnography, and pulse oximetry, to properly assess and manage the patient's condition
- ♦ Determine the neurological and sedoanalgesic status, applying electrical therapies and oxygen therapy, and collecting analytical samples, using scales and physiological parameters for comprehensive care in urgent and emergency situations in both adults and children

03

Course Management

The primary premise of TECH is to make the most comprehensive and up-to-date university qualifications accessible to everyone. For this reason, it conducts a meticulous process to form its faculty teams. For the delivery of this program, TECH relies on the expertise of true leaders in the field of Medical Emergencies in Out-of-Hospital Settings. These specialists have an extensive professional background, having significantly improved the overall well-being of numerous patients affected by disasters. As a result, they have created educational materials that stand out for both their high quality and applicability to the demands of the job market.





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The teaching team for this Postgraduate Certificate boasts a broad track record in research and professional application in Medical Emergencies in Out-of-Hospital Care”

Management



Dr. Sendra Más, Juan Amaro

- ♦ Attending Physician in the Emergency Department at Vega Baja Hospital. Alicante, Spain
- ♦ Emergency Physician of the Medicalized Emergency Unit (UME 1)
- ♦ Physician in the Medical Emergency Service (SAMU)
- ♦ Helicopter Medicalized Physician
- ♦ Degree in Medicine and Surgery from the University of Alicante
- ♦ Specialist in Family and Community Medicine
- ♦ Accredited Professor for the Spanish Society of Emergency Medicine
- ♦ Member of the Spanish Society of Emergency Medicine

Teachers

Dr. Perales Cano, Raquel

- ♦ Specialist in Family and Community Medicine
- ♦ Primary Care Physician at La Loma Health Center
- ♦ Specialist in the Emergency Department at Vega Baja Hospital
- ♦ Physician of the Medicalized Emergency Unit 1 of the Murcia Health Service
- ♦ SAMU Health Professional

Dr. Zazo Menargues, Juan Manuel

- ♦ Primary Care Physician specializing in Family and Community Medicine
- ♦ Medical Coordinator at El Raval Health Center, Elche
- ♦ Primary Care Physician at San Fermín Health Center
- ♦ Researcher at the Department of Clinical Medicine, CEU Cardenal Herrera University

Dr. Pérez Marín, Estefanía

- ♦ Specialist in Mental Health
- ♦ Specialist in Psychiatry at the General University Hospital of Elche
- ♦ Degree in Medicine and Surgery from the Miguel Hernández University of Elche
- ♦ Expert in Mental Health Emergencies

Dr. Fernández Martínez, María Ángeles

- ♦ Biochemist-Nutritionist-Phytotherapist, Head of the Natural Life Nutrition Center
- ♦ Manager of Parapharmacy, Dermopharmacy, Nutricosmetics, and Phytotherapy
- ♦ Bachelor's degree in Biochemistry from the University of Valencia
- ♦ University Expert in Nutrition, Dietetics, and Dietotherapy
- ♦ Expert in Microbiological Analysis of Food
- ♦ Expert in Prevention and Treatment with Nutrition, Diet, and Cancer
- ♦ Expert in Clinical and Sports Vegetarian Nutrition
- ♦ Specialist in Food Intolerances and Study of the Gut Microbiota
- ♦ Numerous courses in Gut Microbiota, Analytical Methods, and Applications
- ♦ Diploma in Natural and Orthomolecular Medicine
- ♦ Expert in Current Use of Nutricosmetics and Nutraceuticals
- ♦ Expert in Point of Sale Management in Pharmacies and Parapharmacies
- ♦ Member of: Spanish Society of Probiotics and Prebiotics (SEPyP), Spanish Society of Dietetics (SEDCA) and Spanish Society of Nutrition (SEÑ)

Dr. Medina Martínez, María Ángeles

- ♦ Medical Director and Co-Founder of Healthy Blue Bits
- ♦ Specialist in Family and Community Medicine, Ministry of Health, Generalitat Valenciana
- ♦ Co-Founder of Toubabs Team
- ♦ Degree in Medicine from the Miguel Hernández University of Elche
- ♦ Postgraduate in Clinical Management from the Open University of Catalonia
- ♦ Postgraduate in Public Health and Community Health from the University of Murcia
- ♦ Member of: ASD (Vocal), SoVaMFIC (President), and the Forum of Primary Care Physicians of the Valencian Community

Dr. Gavilán Martín, Cristina

- ♦ Pediatric Emergency Physician at the General University Hospital of Elche
- ♦ Specialist in Family and Community Medicine
- ♦ Doctor of Medicine from the Miguel Hernández University of Elche
- ♦ Degree in Medicine and Surgery from the University of Alicante
- ♦ APLS credential from the American Academy of Pediatrics and the American College of Emergency Physicians
- ♦ Professor in University Master's Programs and Postgraduate Courses.
- ♦ Member of: Spanish Society of Pediatric Emergencies (SEUP)

Dr. López Llames, Aurora

- Specialist in Otorhinolaryngology
- Head of the Otorhinolaryngology Department at Torrevieja University Hospital
- Specialist Physician at Menorca Ib-Salut
- Otorhinolaryngologist at the Central University Hospital of Asturias
- Master's in Clinical Management from the Open University of Catalonia
- Degree in Medicine and Surgery from the University of Oviedo





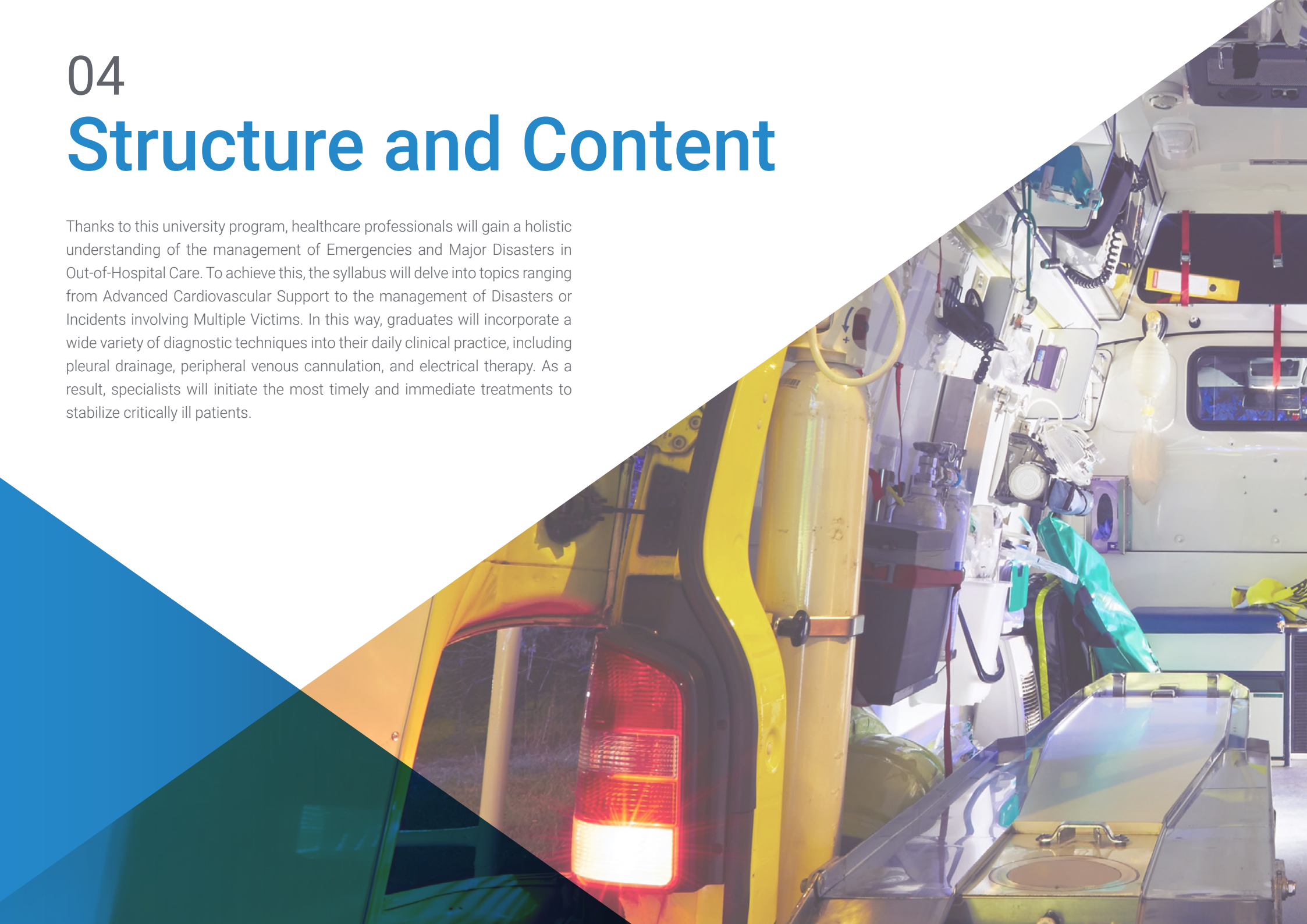
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Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice”

04

Structure and Content

Thanks to this university program, healthcare professionals will gain a holistic understanding of the management of Emergencies and Major Disasters in Out-of-Hospital Care. To achieve this, the syllabus will delve into topics ranging from Advanced Cardiovascular Support to the management of Disasters or Incidents involving Multiple Victims. In this way, graduates will incorporate a wide variety of diagnostic techniques into their daily clinical practice, including pleural drainage, peripheral venous cannulation, and electrical therapy. As a result, specialists will initiate the most timely and immediate treatments to stabilize critically ill patients.



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You will operate the most advanced ultrasound equipment to analyze the condition of patients with critical conditions and optimize therapeutic decision-making”

Module 1. General Overview

- 1.1. Definitions and Concepts
- 1.2. Comprehensive Care
- 1.3. Bioethics and Legislation in Emergency Medicine
- 1.4. Bioethics
- 1.5. Legislation

Module 2. Advanced Cardiovascular Support

- 2.1. Basic Life Support in Adults
 - 2.1.1. General Overview
- 2.2. Advanced Life Support in Adults
 - 2.2.1. Action in Case of Bradyarrhythmia
 - 2.2.2. Action in Response to Tachyarrhythmias
- 2.3. Basic Pediatric Life Support
- 2.4. Pediatric and Neonatal Advanced Life Support
 - 2.4.1. Recognition and Management of Critically Ill Children
 - 2.4.2. Advanced Airway Management
 - 2.4.3. Basics of Mechanical Ventilation in Pediatrics
 - 2.4.4. Infusion Routes and Drugs in Pediatric CPR
 - 2.4.5. Pediatric VAS Algorithms and Arrhythmia Treatment
- 2.5. Neonatal Resuscitation
 - 2.5.1. Post-resuscitation Stabilization and Neonatal Transport
- 2.6. Advanced Life Support in Serious Trauma Patients
- 2.7. Advanced Life Support in Special Cases





Module 3. Multiple Victim Incidents (MVI) and Disasters

- 3.1. General Overview
- 3.2. MVI and Disaster Management
- 3.3. Sectorization
- 3.4. Deployment and Logistics
- 3.5. Triage
- 3.6. Multiple Victim Care
- 3.7. Evacuation
- 3.8. MVI Management in a Hospital
- 3.9. CBRN Incidents
- 3.10. Emergency Planning

Module 4. Diagnostic and Therapeutic Techniques (Out-of-Hospital Emergencies and Disasters)

- 4.1. Catheters
- 4.2. Peripheral and Central Venous Access
- 4.3. Intraosseous Access
- 4.4. Endotracheal Intubation (ETI)
- 4.5. Difficult Airway
- 4.6. Invasive Mechanical Ventilation
- 4.7. Management of Non-Invasive Mechanical Ventilation
- 4.8. Pericardiocentesis
- 4.9. Thoracocentesis and Pleural Drainage
- 4.10. Emergency Ultrasound
- 4.11. Electrical Therapy (MP, CV, DF)
- 4.12. Hemodynamic Status Monitoring and Electrocardiography
- 4.13. Capnography and Pulse Oximetry
- 4.14. Oxygen Therapy
- 4.15. Neurological Status Monitoring
- 4.16. Sedation and Analgesia Monitoring
- 4.17. Collection of Analytical Samples
- 4.18. Common Scales in Emergency Care
- 4.19. Physiological Parameters in Adults and Children

05 Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.



“

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

“

*At TECH you will NOT have live classes
(which you might not be able to attend)”*



The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

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TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want”

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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.



A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule”

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 assess 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.

The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

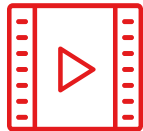
The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.



As such, the best educational materials, thoroughly prepared, will be available in this program:



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.



Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



Interactive Summaries

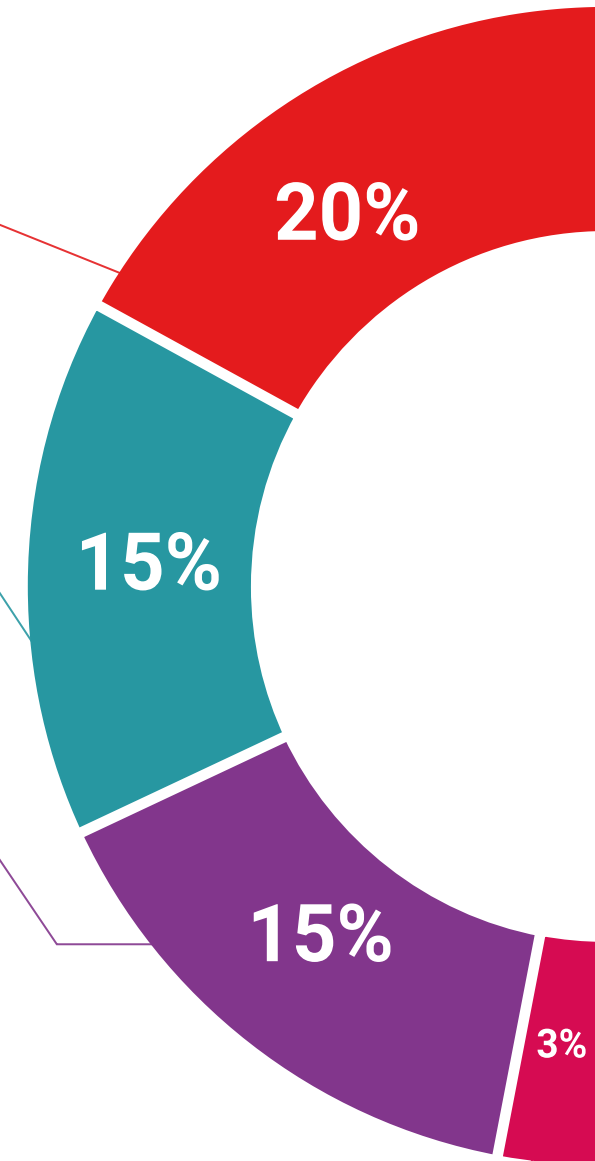
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

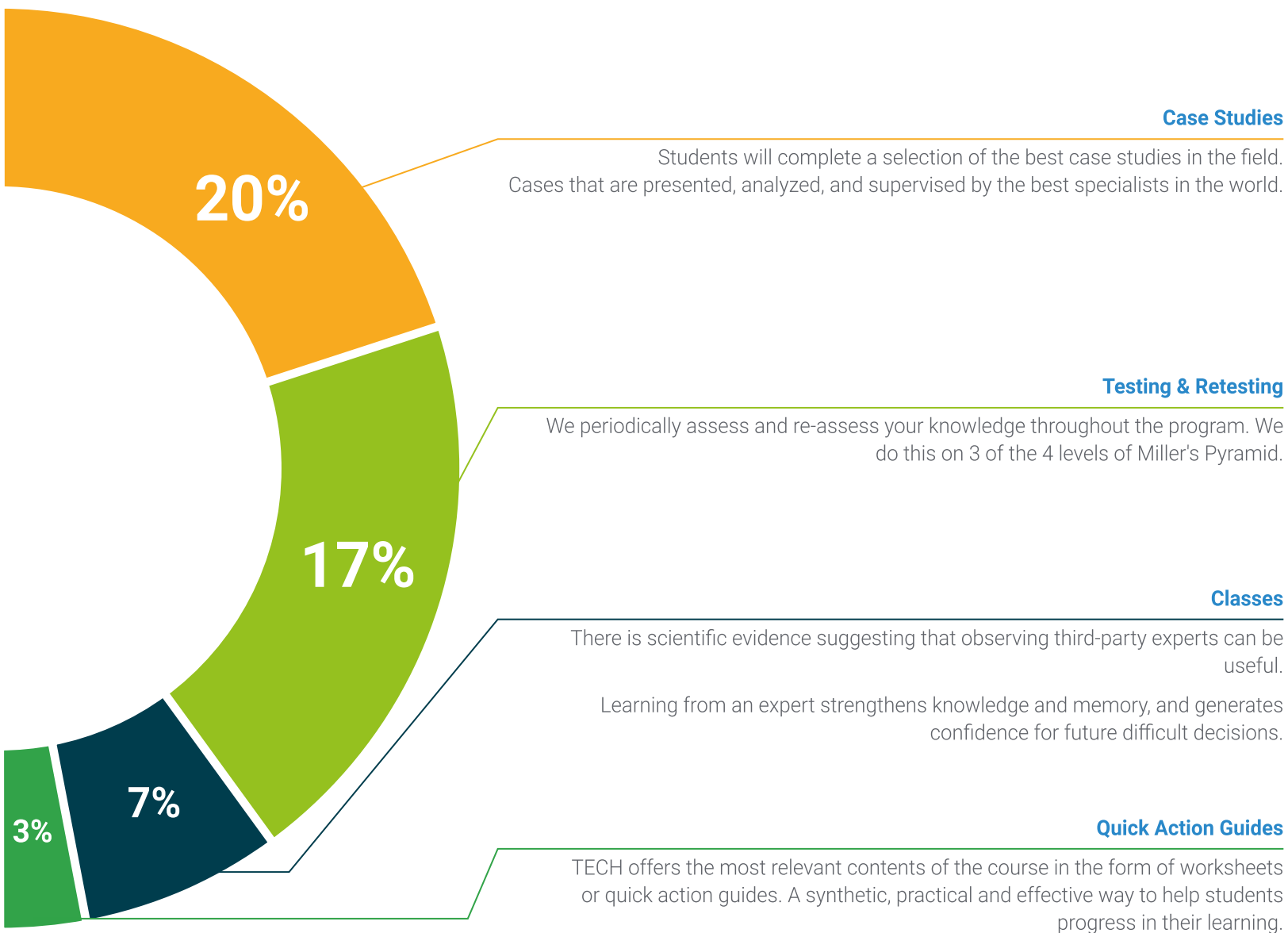
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

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





06 Certificate

This Postgraduate Certificate in Emergencies and Major Disasters, Life Support, and Diagnostic Techniques in Out-of-Hospital Care guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Postgraduate Certificate issued by TECH Global University.



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

This private qualification will allow you to obtain a diploma for the **Postgraduate Certificate in Emergencies and Major Disasters, Life Support, and Diagnostic Techniques in Out-of-Hospital Care** 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 Emergencies and Major Disasters, Life Support, and Diagnostic Techniques in Out-of-Hospital Care**

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Accreditation: **7 ECTS**



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



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