



Hemodynamic Management of the Patient in Accidents, Emergencies and Disasters. Clinical Simulation and New Therapeutic Aspects

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/pk/nursing/postgraduate-diploma/postgraduate-diploma-hemodynamic-management-patient-accidents-emergencies-disasters-clinical-simulation-new-therapeutic-aspects

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06 Certificate





# tech 06 | Introduction

Currently, one of the most complex healthcare environments to work in are the emergency care departments of hospitals and all types of health centers. This is because the professionals who work there encounter critical situations of all kinds on a daily basis which put their response capacities and knowledge on trial. In the field of Nursing, the same situation arises; therefore, TECH professionals have designed this complete program which aims to educate Nursing professionals, so they are able to work in these environments with a much higher degree of success in their interventions.

In this sense, in this Postgraduate Diploma, the advanced life support algorithm will be studied in depth, with emphasis on those special situations where Nursing actions have to be adapted. Likewise, advanced procedures and techniques that are frequently performed in this environment, such as intraosseous cannulation or the use of the capnograph, will be discussed in depth. The aim of this is that the Nursing professional achieves excellence in the most critical situation for the patient, when they are in cardiorespiratory arrest, but also in the immediate aftermath.

On the other hand, this specialization will address the pathologies to which Nursing professionals have to provide an early response, for which they need prior specialization and education on the neurological assessment of the patient, in order to identify pathologies such as strokes. In this field, the Ictus Code, a protocol that is regularly used in the emergency department and which is updated over the years, is also discussed in depth.

Finally, this program will address the advance of technology, which is making great progress in the diagnosis of diseases in a faster and more specific way, as well as in reducing the injury caused to the patient during the implantation of temporary or definitive therapeutic devices.

All this in a 100% online specialization that allows the professional to study where and when they want, only requiring a device with Internet connection. This way, you will not have to neglect your professional and personal obligations to continue educated to become a top-notch nurse.

This Postgraduate Diploma in Hemodynamic Management of the Patient in Accidents, Emergencies and Disasters. Clinical Simulation and New Therapeutic Aspects contains the most complete and up-to-date scientific program on the market. The most important features include:

- The graphic, schematic and practical contents of the course are designed to provide all the essential information required for professional practice
- Exercises where the self-assessment process can be carried out to improve learning
- An algorithm-based interactive learning system, designed for decision-making for patients with nutritional problems
- 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



Improve your knowledge in Hemodynamic Management of the Patient in Accidents, Emergencies and Disasters. Clinical Simulation and New Therapeutic Aspects through this program, where you will find the best teaching material with real cases"



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 Hemodynamics and new therapeutic aspects, you will obtain a qualification by TECH"

The program's teaching staff includes professionals from the fields of medicine and nursing, who bring their work experience to this specialization, as well as renowned specialists from prestigious reference societies and universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive specialization programmed for learning in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and highly experienced experts in emergency nursing.

The Postgraduate Diploma allows education through simulated environments, which provide immersive learning programmed to prepare for real situations.

This 100% online Postgraduate Diploma will allow you to balance your studies with your professional work while expanding your knowledge in this field.







# tech 10 | Objectives



#### **General Objectives**

- Prepare students to act appropriately in vital emergency situations according to internationally recognized updated protocols
- Provide accurate theoretical knowledge to be able to understand and correctly apply basic life support and advanced life support maneuvers and treatments
- Master the algorithms for basic life support and advanced life support actions both in adult and pediatric patients
- Learn the peculiarities of resuscitation in special situations
- Prepare students for a comprehensive approach to patients with other serious or potentially serious pathologies that require early identification and priority, complex and multidisciplinary care
- Acquire advanced knowledge of the main hydroelectrolytic and acid-base alterations
- Review infection management in the emergency services and recommendations on the use of catheters
- Delve into volume replacement therapies
- Enhance theoretical knowledge on ultrasound functioning, as well as its practical application in emergency care
- Understand the elements shown in the ultrasound scanning
- Develop effective strategies in the transmission of knowledge to other professionals through the use of scenarios, workshops or simulation exercises





#### Module 1. Advanced Vital Support

- Gain in-depth knowledge of life support and management of action protocols AHA and ERC
- Know and understand the chains of survival for the optimal care of patients in different situations of imminent vital risk
- Acquire advanced knowledge of life support in the adult patient
- Acquire advanced knowledge on advanced life support in the pediatric patient
- Obtain advanced knowledge on advanced life support in special situations (pregnant women, traumatic emergencies, drowning, hypothermia and drug intoxication)
- Learn advanced knowledge on advanced life support in the SARS-CoV-2 patient
- Show the procedures carried out on the patient undergoing CPR and knowledge of the most pioneering techniques
- Delve into the knowledge of the ethical-legal framework for donors
- Review on epidemiology, organization and coordination of transplant system
- Address the main bioethical and legal dilemmas faced by health professionals: no CPR and therapeutic effort limitation

#### Module 2. Advanced Approach to other Potentially Serious Pathologies

 Acquire knowledge on management and identification of the main neurological emergencies Know the neurological assessment scales and signs and symptoms of patients with urgent neurological pathology

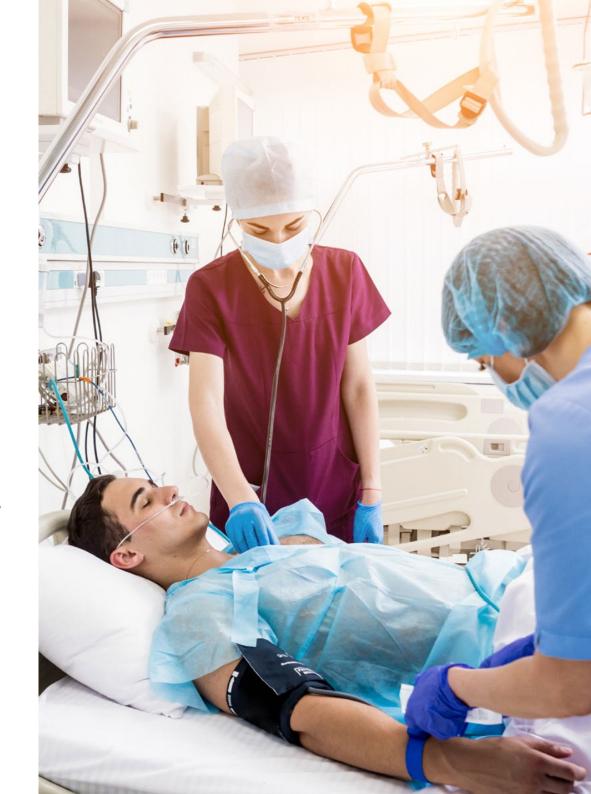
- Delve into the advanced management of the stroke patient: early identification of warning signs and symptoms and their potential impact on the patient. Approach and manage the "ICTUS Code" action protocol: inclusion and exclusion criteria, management and action protocols
- Delve into the knowledge of endocrine-metabolic diseases with special associated mortality: early identification and management of diabetic ketoacidosis and hyperosmolar coma. Know from the pathophysiology, pharmacological and nonpharmacological approach, and the main associated complications
- Recognize and identify urgent digestive pathologies, management and treatment
- Develop theoretical and practical knowledge about the different types of shock: assessment (early identification, differences and similarities), etiopathogenesis of the disease, clinical repercussions and the role of Nursing
- Obtain knowledge of the latest recommendations on the management of shock and changes in therapeutics
- Delve into patients with sepsis. Train in the identification and treatment of the severely infected patient. Approach and management of the action protocol for "Code Sepsis"
- Delve into the knowledge of the different hydroelectrolytic alterations: etiology, symptomatology, concomitant comorbidities and possible complications. Acquire the skills for the identification, assessment and approach
- Delve into the knowledge of the different acid-base alterations: etiology, symptomatology, concomitant comorbidities and possible complications. Gain skills for the identification, assessment and approach. Review knowledge of gasometric analysis

# tech 12 | Objectives

- Update knowledge on intravenous therapy: associated indications and complications. List the incompatibilities of concomitant administration of drugs and delve into the advanced management of intravenous therapy
- Analyze urgent pathology in patients undergoing transfusion of blood products
  Review general aspects about transfusions: advantages, complications and latest
  recommendations
- Delve into the knowledge and skills for the selection of the different types of intravascular catheters according to their therapeutic suitability. Review the notions of maintenance, insertion, advantages and disadvantages. Present the latest CDC recommendations on catheter management and the "Code Sepsis" protocol
- Identify algorithms for access choice, duration and withdrawal according to CDC recommendations
- Identify the main risks linked to catheter-associated infection
- Learn strategies for maintenance of venous accesses

# Module 3. Teaching Methods and New Technologies in the Emergency Department

- Learn the physics of sound and properties of sound waves, as well as the key elements involved in practical application
- Differentiate the different types of transducers and their usefulness according to the object to be examined



- Differentiate the anatomical planes shown in the generated image
- Identify the objects to be scanned and know how they behave during the scanning process
- Identify the different types of image artifacts useful for ultrasound scanning (pathological and non-pathological)
- Know the advantages and disadvantages compared to other types of radiodiagnostic scans
- Increase knowledge on the different materials that can be used in catheters and their biocompatibility
- Identify the main complications in the insertion of peripherally inserted central venous accesses
- Develop an adequate technique for the insertion of nasogastric tubes, identifying the intervening structures
- Know the sequence and layouts for FAST (Focused Abdominal Sonography for Trauma) scanning
- Develop the appropriate technique for bladder volume estimation and calculation
- Know the intracavitary electrode technique indications as a way to locate the end of central catheters
- Know and apply the different paradigms that support the simulation methodology for the improvement and development of accident and emergency equipment
- Integrate new perspectives of clinical education through simulation techniques

- Acquire basic knowledge about simulation as a tool for clinical safety in the emergency department
- Discover the tools for the design, implementation and development of innovative simulation scenarios
- Explain the elements of communication in simulation (*Briefing and Debriefing*) as a way to help students in the development of communication and emotion management skills in the clinical field



Immerse yourself in the study of this complete program and improve your skills as a nurse"





#### Management



#### Ms. Souto Novas, Ana María

- Nurse Emergency Supervisor at La Paz University Hospital
- Admission Nurse at La Paz University Hospita
- Master's Degree in Integration and Critical Problem Solving in Nursing from the University of Alcalá
- Postgraduate Diploma in Management and Nursing Services Leadership given by the School of Health Sciences
- Postgraduate Diploma iin Accidents and Emergencies from the Complutense University of Madrid
- Postgraduate Certificate in Nursing from the Pontificia University of Salamanca



#### D. Ruiz López, Daniel

- Nurse specialized in Nursing Services Direction and Management
- Nursing Supervisor in the Adult Emergency Department of La Paz University Hospital of Madrid
- Diploma in Nursing (D.U.E.), University School of Nursing, Cordoba
- Master's Degree in Nursing Management. Cardenal Herrera University
- University Expert in Nursing in the Hospital Emergency Department. Cardenal Herrera University
- University Expert in Management Skills for Nursing. Cardenal Herrera University
- University Expert in Quality Management for Nursing. Cardenal Herrera University
- University Expert in Management and Services Supervision for Nursing. Cardenal Herrera University
- University Expert in Direction and Management of Health Services for Nurses. Cardenal Herrera University
- Instructor of Instructors and Auditors in Triage Manchester. Spanish Triage Group
- Triage System Training Course. Spanish Triage Group



# Course Management | 17 tech

#### **Professors**

#### Dr. Estebaranz Santamaría, Cristina

- Nurse and Researcher
- Nurse at the Adult Emergency Department of La Paz University Hospital
- Associate Professor of Nurses, Autonomous University of Madrid
- Main advisor for Nursing Clinical internships at the Autonomous University of Madrid of Madrid
- PhD in Medicine and Surgery from the Autonomous University of Madrid.
- Graduate in Nursing from the Autonomous University of Madrid
- Master's Degree in Accidents, Emergencies and Critical Nursing Care given by the European University of Madrid

#### D. Galbis Palma, Alejandro

- Nurse at the Adult Emergency Department of La Paz University Hospital
- Postgraduate Certificate in Nursing
- Postgraduate Certificate in Nursing Application of Techniques in Accident and Emergency Care
- Postgraduate Certificate in Nursing Interventions in Disaster Situations
- Postgraduate Certificate in Instrumentalized Life Support
- Postgraduate Certificate in Intravenous Therapy and PICC Implantation

# tech 18 | Course Management

#### D. García Garrido, Miguel Ángel

- Nurse of the Adult Emergency Department of La Paz University Hospital
- University Diploma in Nursing
- Master's Degree in Health Emergency and Disasters given by the University of León
- Master's Degree in Critical Illness and Emergencies given by the University of Barcelona
- Master's Degree in Clinical Research given by the University of Barcelona
- Postgraduate Certificate in Advanced Life Support
- Postgraduate Certificate in Trauma Advanced Life Support
- Postgraduate Certificate in Basic and Advanced CPR in Pediatrics

#### Ms. Gómez Lage, Laura

- Nurse at the Adult Emergency Department of La Paz University Hospital
- Degree in Nursing from the Complutense University of Madrid
- Expert in Nursing Processes and Interventions for Pediatric Patients in Life-Threatening Situations by FUDEN and the Catholic University of Avila
- Expert in Emotional Development and Parenting by FUDEN and Catholic University of Avila
- Basics of Accident and Emergency Nursing by FMAE
- Emergencies in the Institutionalized Patient Care by the Puerta de Hierro Majadahonda University Hospital
- Pharmacology Residency in Accident and Emergency Care by FUDEN
- Nursing Care of the Healthy Newborn by FMAE
- Frequently Used Drugs by Diffusion Nursing Advances





# Course Management | 19 tech

#### Ms. Peinado Quesada, María Angustias

- Nurse at the Adult Emergency Department of La Paz University Hospital
- Nurse in the Intensive Care Unit of St Helier Hospital (London)
- Nurse in the Heart Unit of La Paz University Hospital
- Nurse in the Intensive Care Unit of La Paz University Hospital
- Full Professor at the Autonomous University of Madrid
- Diploma in Nursing from the Autonomous University of Madrid
- Master's Degree in Assessment and Management of the Critically III Patient by ST George's University (London)
- Expert in Advanced Mechanical Ventilation for Nurses from ST George's University
- Expert in Accident Emergency and Critical Care Nursing Care by FUDEN
- American Heart Association BLS/AVS Instructor



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Hemodynamic Management of the Patient
in Accidents, Emergencies and Disasters.
Clinical Simulation and New Therapeutics
Aspects contains the most complete and upto-date scientific program on the market"

## tech 22 | Structure and Content

#### Module 1. Advanced Vital Support

- 1.1. Introduction to Life Support
- 1.2. Advanced Life Support in Adults
- 1.3. Advanced Pediatric Life Support
- 1.4. Life Support in Special Situations
- 1.5. Advanced Life Support in the Patient with SARS-CoV-2 Infection
- 1.6. Advanced CPR Procedures and Techniques
- 1.7. Post-Resuscitation Care
- 1.8. Organ and Transplants Donation
- 1.9. Ethical Dilemmas and Legal Framework

#### Module 2. Advanced Approach to other Potentially Serious Pathologies

- 2.1. Assessment of the Neurological Patient Scales
- 2.2. Stroke. Code Stroke
- 2.3. Ketoacidosis and Hyperosmolar Coma
- 2.4. Gastrointestinal Bleeding
- 2.5. Cardiogenic and Hypovolemic Shock Hemodynamic Assessment and Management
- 2.6. Obstructive and Distributive Shock. Hemodynamic Assessment and Management
- 2.7. Severe Infections: SEPSIS Code
- 2.8. Alterations in the Hydroelectrolyte Balance
- 2.9. Alterations in the Acid-base Equilibrium. Advanced Interpretation of Gassometry
- 2.10. Fluid Therapy and Transfusions
- 2.11. Advanced Nursing Care in Intravascular Catheters Bacteremia Zero





# Structure and Content | 23 tech

# **Module 3.** Teaching Methods and New Technologies in the Emergency Department

- 3.1. Physical Fundamentals of Ultrasound, History and Advances
- 3.2. Identification of Structures, Planning and Application of Ultrasound in Advanced Emergency Department Practice
- 3.3. Limitations in the Use of Ultrasound for Patient Assessment in Emergency Departments
- 3.4. Assessment of Venous Capital and Vascular Economy, Ultrasound Approach to Venous Access in the ED
- 3.5. Long-term Catheter Insertion, Feasibility and Alternatives to Short Peripheral Cannulae
- 3.6. Ultrasound-guided/echo-assisted Procedures as a Support to Care Practice (Bladder Catheterization, Nasogastric Catheterization, Obtaining Samples)
- 3.7. Alternatives to Radiodiagnostics in Catheter Tip Localization
- 3.8. Teaching in Emergency Care, Educational Planning and Objectives for Students
- 3.9. Practicality of the Simulation and Updating of Knowledge
- 3.10. Communication Techniques in Clinical Simulation Scenario Preparation



A unique, key, and decisive educational experience to boost your professional development"



This academic program offers students a different way of learning. Our methodology follows a cyclical learning process: *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.

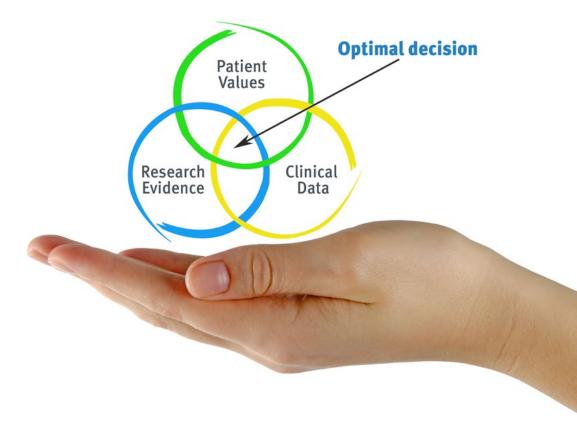


# tech 26 | Methodology

#### At TECH Nursing School we use the Case Method

In a given situation, what should a professional do? 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. Nurses learn better, faster, and more sustainably over time.

With TECH, nurses can experience a learning methodology 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, in an attempt to recreate the real conditions in professional nursing 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. Nurses who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
- 2. The learning process has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
- **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 case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.

The nurse will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



### Methodology | 29 tech

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 we have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical workload. 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 really 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.



#### **Nursing Techniques and Procedures on Video**

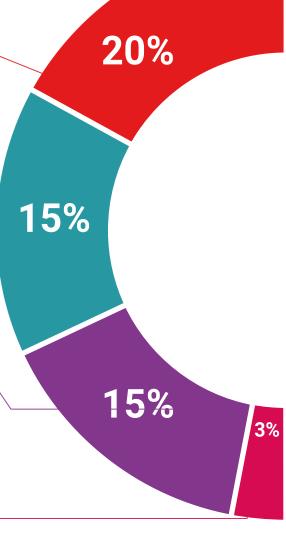
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch them as many times as you want.



#### **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

# **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

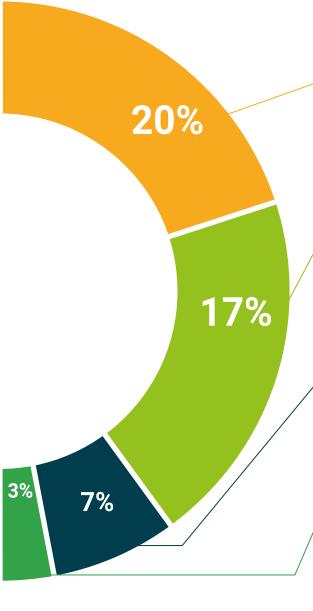
There is scientific evidence suggesting that observing third-party experts can be useful.

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.







# tech 34 | Certificate

This Postgraduate Diploma in Hemodynamic Management of the Patient in Accidents, Emergencies and Disasters. Clinical Simulation and New Therapeutics Aspects contains the most complete and up-to-date scientific program on the market.

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

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

Title: This Postgraduate Diploma in Hemodynamic Management of Patient in Accidents, Emergencies and Disasters. Clinical Simulation and New Therapeutic Aspects

Official No of hours: 450 h.



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

# health guarantee technological university

# Postgraduate Diploma

Hemodynamic Management of the Patient in Accidents, Emergencies and Disasters. Clinical Simulation and New Therapeutic Aspects

- » Modality: online
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