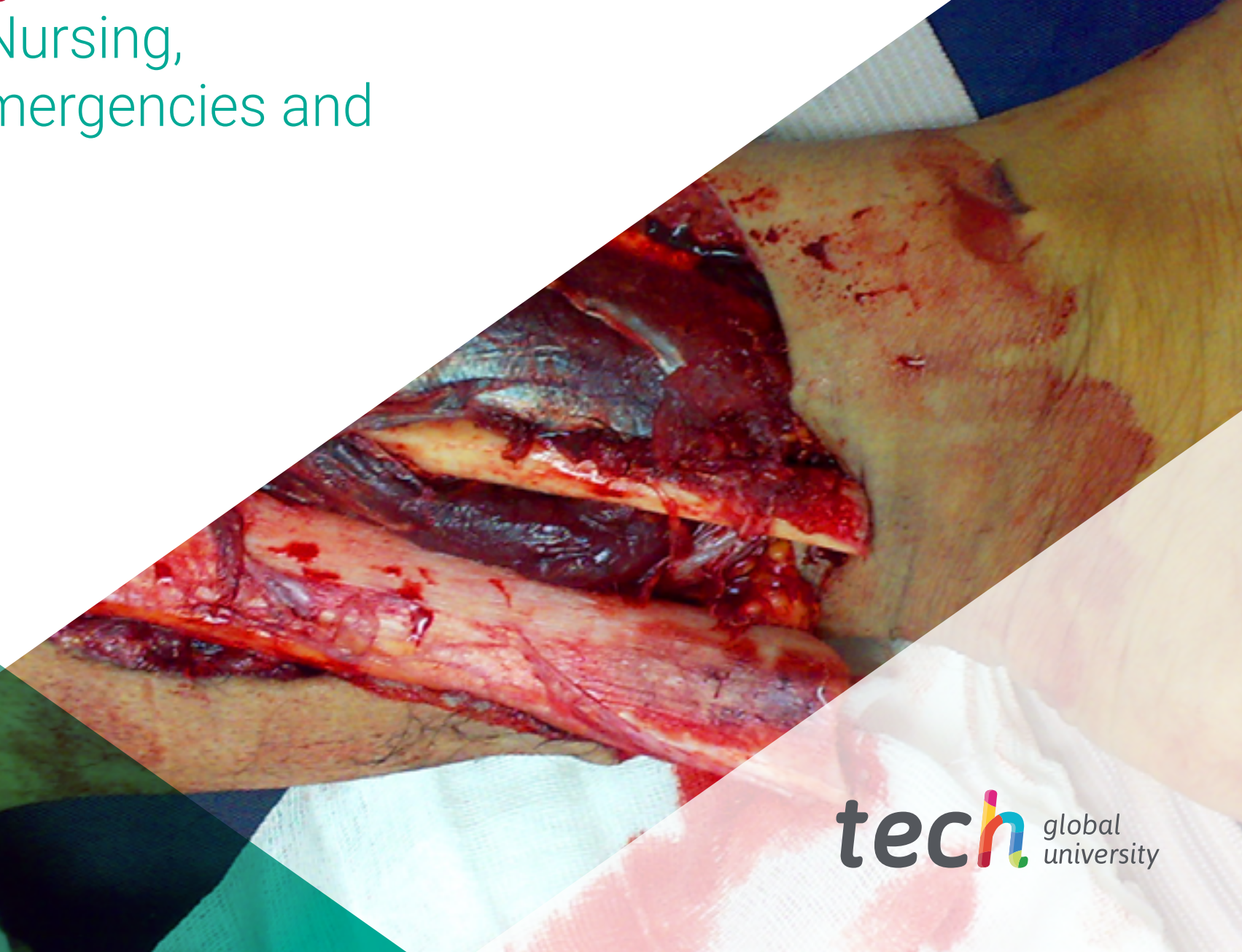


# Master's Degree

## Emergency Nursing, Advanced Emergencies and Disasters





## Master's Degree Emergency Nursing, Advanced Emergencies and Disasters

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/nursing/master-degree/master-emergency-nursing-advanced-emergencies-disasters](http://www.techtute.com/us/nursing/master-degree/master-emergency-nursing-advanced-emergencies-disasters)

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# 01

# Introduction

Hospital and out-of-hospital emergencies are increasingly changing environments that require Nursing professionals educated to work successfully in situations of emergencies and disasters. Therefore, this program will enable students to provide advanced care to multi-pathological patients who require out-of-hospital care and continuity of care in the emergency department of the health center. For this purpose, it is based on the anatomical and physiological knowledge and its alteration in the main urgent pathologies, and it is complemented with the contents introduced on the use of diagnostic methods such as ultrasound, as well as other criteria that serve as a tool in the performance of therapeutic techniques.





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*Knowledge in the field of Emergency Nursing, Advanced Emergencies and Disasters is a growing competence, increasingly demanded by health institutions of various kinds".*

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 comprehensive 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.

Particularly, emergency care instruction for nurses is of vital importance since the first contact with the patient's health, who is generally in a complex situation, often guides the rest of the medical care that is taken. Therefore, nursing professionals must be highly trained to provide solutions to the wide range of pathologies that are treated in emergency departments, especially those that require in-depth knowledge and special competence due to their severity, complexity and/or, in many cases, requirement.

In this sense, this Master's Degree in Emergency Nursing, Advanced Emergencies and Disasters aims to enable students to deal with a variety of emerging and highly complex problems, providing them with the necessary knowledge and tools to respond to an increasingly advanced demand for care, while respecting the highest degree of evidence.

**This complete program also provides a great differential value when it comes to understanding the structure developed in early care, as well as in the preparation for the confrontation and use of elements of care practice, which are of special complexity, as well as the scenarios that may be presented.**

On the other hand, emergency units are made up of a network of health professionals who offer increasingly complex multidisciplinary assistance. Therefore, to maintain an adequate commitment to safety, quality and efficiency, knowledge must be kept up to date in terms of techniques and treatments that provide autonomy and a proactive decision-making capacity.

This **Master's Degree in Emergency Nursing, Advanced Emergencies and Disasters** contains the most complete and up-to-date program on the market. Its most outstanding features are:

- ♦ 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 challenges.
- ♦ 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 of Emergency Nursing, Advanced Emergencies and Disasters through this program where you will find the best teaching material with real cases"*

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*This Master's Degree is the best investment you can make when selecting an refresher program for two reasons: in addition to updating your knowledge in Emergency Nursing, Advanced Emergencies and Disasters, you will obtain a diploma from TECH Global University"*

The program includes, in its teaching staff, professionals from the fields of medicine and nursing, who bring to this training the experience of their work, as well as recognized 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 education programmed to prepare 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 throughout the program. For this purpose, the specialist will be assisted by an innovative interactive video system created by renowned and experienced experts in the field of Emergency Nursing, Advanced Emergencies and Disasters.

*The Master's Degree allows students to practice in simulated environments, which provide immersive learning, programmed to train for real-life situations.*

*This 100% online Master's Degree will allow you to balance your studies with your professional work while increasing your knowledge in this field.*



# 02 Objectives

The main objective of the program is the development of theoretical and practical learning, so that the professional achieves in a practical and rigorous way the study of Emergencies, Advanced Emergencies and Disasters, in the daily practice of their profession. In this sense, the Master's Degree in Emergency Nursing, Advanced Emergencies and Disasters responds to the continuous demand of professionals for quality study, which serves as a means to use the different types of approaches and treatments as a preventive or therapeutic tool in maintaining the health of their patients.







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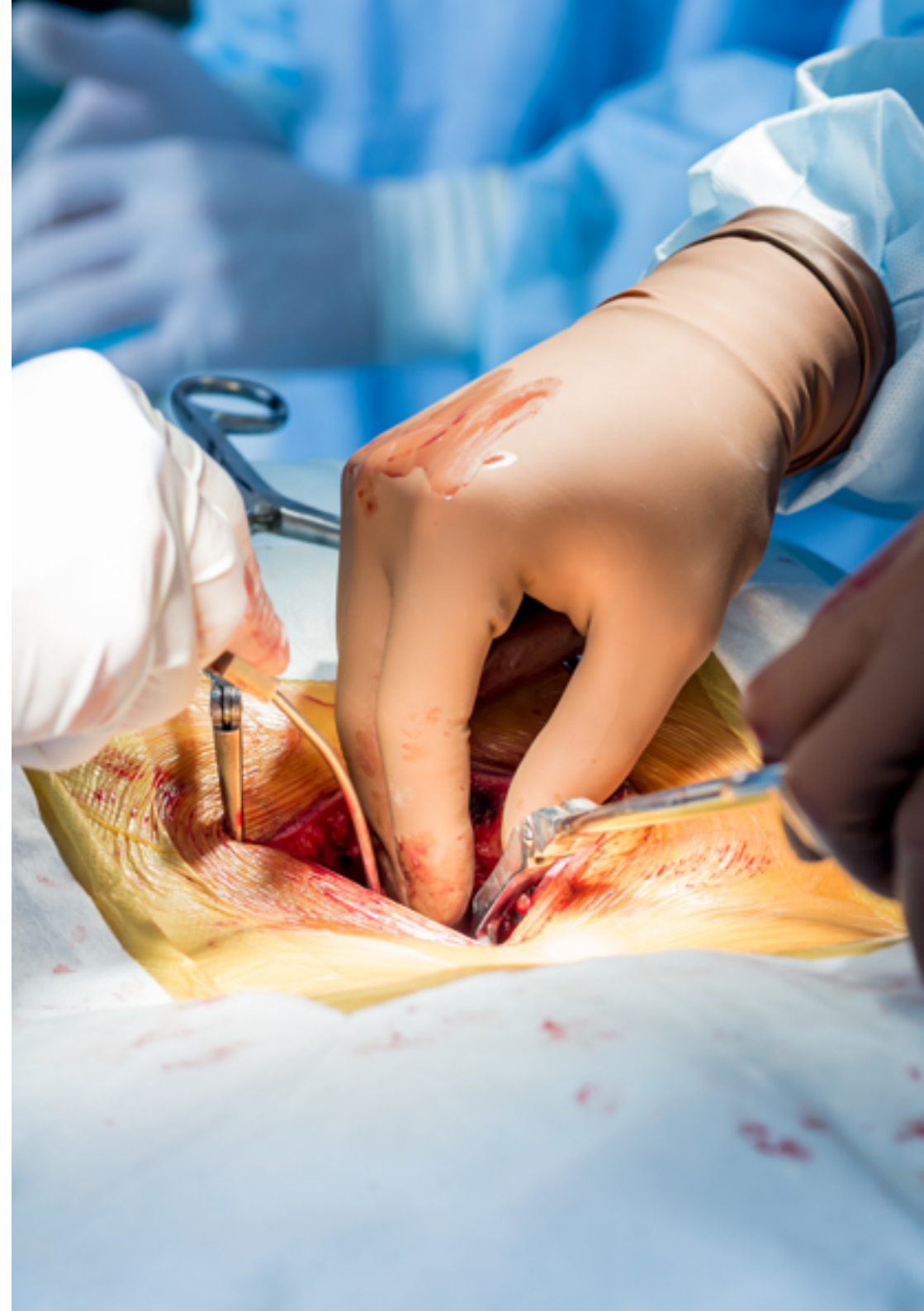
*This refresher program will generate a sense of security in the performance of your daily practice, which will help you grow personally and professionally”*



## General Objectives

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- ♦ Acquire the necessary knowledge, skills and attitudes in the area of emergencies that allow, in an adequate manner, to make decisions in critical moments based on the patient's needs
- ♦ Examine the main bioethical issues and be able to deal with them
- ♦ Recognize the characteristics of emergency saturation, in order to adopt a proactive attitude, anticipating in the decision-making process
- ♦ Enable students to develop competencies that will allow them to plan objectives and strategies in accordance with the guidelines of the health organization
- ♦ Identify the main resources involved in out-of-hospital health care
- ♦ Develop the different victim classification systems in any field or environment
- ♦ Describe the different interventions developed in a large-scale event
- ♦ Learn to manage the different areas of an event involving a large number of people affected by it
- ♦ 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
- ♦ Recognize the main cardiovascular diseases that are highly life-threatening
- ♦ Differentiate the multiple therapies and treatments recommended for the resolution of a heart disease event
- ♦ Identify time-dependent cardiac pathology to achieve an orderly response from the different resources involved



- ♦ Improve the necessary knowledge for the management of patients in need of advanced respiratory support
- ♦ Know the basics of mechanical ventilation, the different existing ventilatory therapies, as well as the challenges and complications that the artificial airway itself entails
- ♦ Examine alternatives to conventional mechanical ventilation through new ventilatory devices
- ♦ Delve into the advanced care applicable to a patient with a respiratory pathology
- ♦ 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
- ♦ Delve into the advanced management of patients with severe trauma, major burns and their associated complications
- ♦ Review the main damage control resuscitation strategies and their application in different health care settings
- ♦ Examine the most effective strategies for the patient's pain control from a biopsychosocial approach
- ♦ Review the main relevant rare pathologies in hospital emergency for their advanced management
- ♦ Gain insight into the pathophysiology and transmission mechanism of SARS-CoV-2 disease and its subsequent effects
- ♦ Prepare students for the identification and management of diseases characterized by hemorrhagic fevers
- ♦ Develop protocols related to individual protection equipment, waste management and occupational safety
- ♦ Acquire knowledge on the main anatomical and physiological changes of the different vital stages (pregnant woman, pediatric patient and patient in the last days of life) and, consequently, review the most relevant considerations to be considered at the time of their assessment, diagnosis and treatment
- ♦ Develop strategies for communicating bad news and approaching patients in complex life situations, such as patients subjected to abuse or palliative patients
- ♦ Recognize the main needs of the patient in their final days, and delve into the adequate management of pain
- ♦ Prepare students for the comprehensive management of acutely poisoned patients and approach to the main toxicological emergencies
- ♦ Develop knowledge of the main abuse drugs and the antidotes used in emergency department
- ♦ Review the main psychiatric pathologies that require the use of an emergency service, and update on the nursing care of patients with mental disorder
- ♦ Increase knowledge of epidemiology, legislation and nursing assistance to the psychiatric patient
- ♦ 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



## Specific Objectives

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### Module 1. Management and Planning of Care in Emergencies, Advanced Emergencies and Disasters

- ♦ Know the fundamentals and historical evolution of accident and emergency health care, as well as the new therapeutic approaches currently available
- ♦ Acquire knowledge on epidemiology in accident and emergency services; plasticity and elasticity in situations of saturation, and their functional and structural re-organization in special situations (epidemics and pandemics)
- ♦ Understand the most relevant legal and ethical aspects of health care in accident and emergency services. Expand theoretical knowledge and its clinical applicability
- ♦ Identify the main ethical dilemmas in accident and emergency departments Know the bioethical principles and their prioritization in pandemic situations
- ♦ Review humanization in emergency services and the peculiarity of its implementation Learn the emergency nursing profile characteristics, as well as their different professional roles
- ♦ Increase knowledge of emergency department management, peculiarities and challenges, as well as quality definition and assessment: criteria and indicators
- ♦ Know and apply the tools for quality management Identify the most common concepts and terms related to quality management Apply the most widely used models: ISO 9001, EFQM
- ♦ Develop in depth knowledge of standardized nursing language (NANDA, NOC, NIC interrelationships) for subsequent application in emergency departments
- ♦ Acquire knowledge of the types of resources for emergency health care and their impact on the health care system

- ♦ Review the medical-legal aspects of patient safety and its multidisciplinary approach
- ♦ Acquire knowledge related to patient safety, as well as the measures to improve patient safety in this area, as a key component of the quality of care

### Module 2. Triage. Advanced Disaster Management

- ♦ Delve into the different care models and the structural and functional peculiarities accident and Emergency services
- ♦ Delve into the coordination between the different services of the health system, aimed at providing assistance to patients with emergency conditions
- ♦ Increase knowledge about Nurse Life Support, professional role and future challenges for the profession
- ♦ Know the types and characteristics of incidents with multiple victims and their special approach
- ♦ Foster an attitude of responsibility when dealing with a disaster
- ♦ Obtain knowledge and skills on the main types of triage, both in-hospital and out-of-hospital, and triage in special situations, as well as the prioritization and implementation of new technologies in triage systems
- ♦ Know the types and characteristics of CBRN incidents: triage, operating procedures, sanitary zoning and hospital preparedness
- ♦ Learn about victim management in special situations and emergency response identification and framework
- ♦ Show a variety of situations with which health care personnel must deal with
- ♦ Gain an in-depth knowledge of the different types of medical transport used today and their evolution throughout history



- ◆ Develop knowledge of the fundamental characteristics of each type of patient transport and transfer

### **Module 3. 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 the transplant system
- ◆ Address the main bioethical and legal dilemmas faced by health professionals: no CPR and therapeutic effort limitation

### **Module 4. Advanced Approach to the Patient with Heart Disease**

- ◆ Delve into the theoretical and practical knowledge of advanced electrocardiography and its applicability in clinical nursing practice

- ♦ Identify and learn the management of bradyarrhythmias Acquire knowledge and skills for patient diagnosis and management
- ♦ Identify and learn the management of Tachyarrhythmias Acquire knowledge and skills for patient diagnosis and management
- ♦ Increase knowledge on implantable devices (pacemakers, implantable Holter and ICD), identification of indications, results and complications
- ♦ Improve skills in the advanced management of cardioversion and defibrillation. Acquire knowledge and skills about the different therapeutic options: cardioversion (electrical and pharmacological) and/or defibrillation
- ♦ Delve into the knowledge of new devices and therapies for the management of patients with heart disease
- ♦ Identify and classify atherosclerotic disease: angina, NSTEMI, STEMI
- ♦ Approach ACS and identify the management of the "Heart Attack Code" action protocol

#### **Module 5. Advanced Approach to the Patient with Respiratory Pathology**

- ♦ Develop advanced theoretical knowledge of respiratory physiology and fundamentals of mechanical ventilation
- ♦ Identify and recognize the main peculiarities and differences between spontaneous breathing and mechanical ventilation
- ♦ Delve into the pathophysiological concepts of gas exchange and respiratory mechanics related to respiratory failure
- ♦ Identify the main pathological ventilatory patterns
- ♦ List existing devices for advanced airway management (supraglottic devices, Fastrach laryngeal mask, Combitube, etc.)
- ♦ Define the difficult airway, both anticipated and emergent, main aspects of its detection and management strategy through recommended algorithms
- ♦ Review the phases of Rapid Sequence Intubation (RSI)

- ♦ Acquire advanced knowledge on the different methods of invasive mechanical ventilation, as well as the different ventilatory methods
- ♦ Delve into advanced knowledge of noninvasive mechanical ventilation modalities, their parameters and alarms
- ♦ Demonstrate new ventilation devices and therapies in the emergency patient
- ♦ Identify the main complications of mechanical ventilation and advanced management of the respiratory patient
- ♦ Acquire advanced knowledge in individualized and quality care for the respiratory patient as a basis for excellence in care

#### **Module 6. 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 To know the pathophysiology, pharmacological and non-pharmacological 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.
- ♦ Know the pathophysiology, pharmacological and non-pharmacological approach, main associated complications
- ♦ Delve into patients with sepsis. Get up to date 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
- ♦ 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 of 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 7. Advanced Approach to Traumatologic Emergencies**

- ♦ Develop the epidemiology related to the severe trauma patient and the epidemiological magnitude involved

- ♦ Delve into the assessment and stabilization of the trauma patient, with specific procedures and techniques throughout the process of emergency health care treatment
- ♦ Learn about resuscitation therapies related to major trauma, with a focus on damage control resuscitation
- ♦ Describe the action plan for a "Polytrauma Code"
- ♦ Update on mobilization and immobilization protocol for trauma patients
- ♦ Acquire advanced knowledge of burns, both in their assessment and management
- ♦ Plan nursing care based on identified problems
- ♦ Demonstrate the main therapeutic techniques and nursing care related to fractures and dislocations
- ♦ Delve into pain management and acquire skills to perform advanced care

### **Module 8. Rare Contagious Diseases**

- ♦ Acquire knowledge that facilitates assistance and skill in providing care to patients with coagulopathies. Compare hemophilia A and B, Analyze Von Willebrand's disease, as well as delve into clotting factors
- ♦ Delve into chemical sensitivity, and know the recommendations to be considered Acquire skills for handling this type of patients. Raise professionals' awareness on this health problem
- ♦ List and detail the main infectious-contagious pathologies
- ♦ Acquire the necessary knowledge and management of SARS-CoV-2 infection
- ♦ Identify the main complications of SARS-CoV-2 infection
- ♦ Acquire the necessary knowledge in isolation and prevention of hospital infections to provide quality and safe care, with the aim of reducing nosocomial infections. Know the impact of nosocomial infections
- ♦ Delve into the legal framework and waste management. Identify the risks associated with so-called hazardous drugs

- ♦ List the components of individual protection equipment, and delve into the necessary preparation for professionals who are directly or indirectly involved.
- ♦ Exhibit the elasticity that an emergency department must have nowadays, as well as its adaptability capacity during special situations

### **Module 9. Care Applied to the Different Life Stages of a Patient in the Emergency Unit**

- ♦ Delve into the knowledge of the main anatomical and physiological changes that occur in the pregnant patient, as well as the assessment, diagnosis and treatment of the most prevalent obstetric emergencies and / or complex approach
- ♦ Acquire knowledge about the labor process, identifying the algorithms of it and the care associated to each stage, with the aim of identifying the care to be carried out during the dilatation periods, expulsion and delivery periods, as well as the immediate care that the newborn requires
- ♦ Know the main anatomical and physiological characteristics of the pediatric patient, which characterize its special approach and treatment, delving into the most urgent pathologies
- ♦ Delve into the therapeutics of significant life stages, such as dose management and the identification of incompatibilities and/or contraindications
- ♦ Recognize the main items to deal with patients of special vulnerability, such as those subjected to gender violence and/or abuse
- ♦ Delve into the necessary knowledge to holistically approach the patient in the last days of life, knowing the importance of the family and the psychosocial aspect Early recognition of incipient signs of discomfort and pain, knowledge of pain management and the main analgesic scales
- ♦ Acquire communication tools for the transmission of bad news and training for assistance during the mourning process

### **Module 10. Toxicology and Advanced Approach to the Psychiatric Patient**

- ♦ Delve into the necessary knowledge for the management and identification of main toxicological emergencies and abuse drugs
- ♦ Know the action protocol to be followed in case of "chemical submission"
- ♦ Recognize and distinguish those intoxications that require immediate attention, teaching the student how to evaluate and approach them
- ♦ List the main antidotes, their pharmacokinetics and pharmacodynamics, as well as their preparation and administration
- ♦ Identify and assess through observation, interview and therapeutic relationship the needs of the psychiatric patient
- ♦ Acquire the necessary skills in the performance of Nursing care in the patient with mental disorders
- ♦ Acquire evidence-based knowledge about Mental Health
- ♦ Enhance knowledge on the approach to psychiatric patients and their special conditions
- ♦ Acquire notions on the main psychiatric illness to carry out an adequate adaptation between the patient's needs and the interventions of the Nursing Staff.
- ♦ Delve into the main causes of attempted suicide and suicidal ideation, as these pathologies are increasing, with high mortality and incidence rates, especially in some age groups
- ♦ Prepare students on the types of containment for the psychiatric patient's approach, acquiring the ability to choose and implement them according to the patient's needs
- ♦ Know the main epidemiological and morbidity data associated with mental illness
- ♦ Know the current legislation on mental health
- ♦ Learn about the determinants and epidemiology of the main mental health problems among emergency department workers



### Module 11. 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 in 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 training through simulation techniques. 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 y Debriefing*) as a way to help students in the development of communication and emotion management skills in the clinical field

### Module 12. Update on Coronavirus Infections

- ♦ Learn about the growth and evolution of coronavirus in the world
- ♦ Delve into the microbiological characteristics of the disease.
- ♦ Learn about the different epidemiological changes in coronavirus infections from their discovery to the present day
- ♦ Delve into the functioning of the immune system during the coronavirus infection
- ♦ Understand the pathogenesis and pathophysiology of coronavirus infections
- ♦ Know the main risk groups in coronavirus infections
- ♦ Delve into the different methods of transmission of the disease.
- ♦ Know the different methods of Biosafety in microbiology laboratories for the handling of coronavirus samples
- ♦ Delve into the future challenges in the prevention, diagnosis and treatment of coronavirus infections

# 03 Skills

After passing the assessments of the Master's Degree in Emergency Nursing, Advanced Emergencies and Disasters, the nurse will have acquired the necessary professional skills for high-quality and up-to-date practice based on the latest scientific findings. In this way, upon completion of the program, the professional will be significantly better able to provide quality primary care in accident and emergency services, and better able to direct the patient as appropriate. This, in addition to making you a much more qualified nurse, will help you to position yourself as a leading professional in the sector, achieving better job opportunities.





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*Seize the opportunity and take the leap, to stay up to date on the latest developments in Emergencies, Advanced Emergencies and Disasters, from a nurse's point of view"*

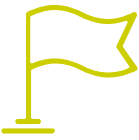


## General Skills

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- ♦ Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- ♦ Know how to apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the field of study
- ♦ Be able to integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments.
- ♦ Gain knowledge about how to communicate conclusions, and the ultimate knowledge and rationale behind them to specialized and non-specialized audiences in a clear and unambiguous manner
- ♦ Acquire the learning skills that will enable you to continue studying in a manner that will be largely self-directed or autonomous





## Specific Skills

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- ♦ Understand the Nursing role at a time when humanization plays an important role in health care
- ♦ Be able to optimally identify those patients who are in the most severe and/or vulnerable situation
- ♦ Know how to work in complex situations where not only the patient will have to be attended with quality, but also to manage the assistance and, in special circumstances, initiate rescue maneuvers.
- ♦ Understand the functioning of those special situations where nursing actions must be adapted
- ♦ Be able to apply those advanced procedures and techniques that are frequently performed in this environment, such as intraosseous route cannulation or the use of the capnograph
- ♦ Achieve excellence in the most critical situation for the patient, when he/she is in cardiorespiratory arrest, but also in the immediate aftermath
- ♦ Know how to use electrocardiography for early identification of heart diseases and an effective therapeutic approach
- ♦ Understand thoroughly the ventilation associated to the devices they will have to use in the environments where they will develop their assistance activity and the different therapies used
- ♦ Understand how to work with patients in shock, on which we will deepen in the identification and advanced therapeutic management of each of the situations that may arise
- ♦ Know how to work with volume replacement therapies, both in the management of fluid therapy and transfusions, to perform quality hemodynamic management based on the latest scientific evidence recommendations
- ♦ Understand the guidelines that should be followed when performing a correct assessment and identification of a patient, as well as the most advanced treatments and associated therapies that the Nursing staff should be aware of.
- ♦ Understand how SARS-CoV-2 and hemorrhagic fevers affect patients
- ♦ Understand the anatomic and physiological changes inherent to pregnancy, the main obstetric emergencies and the most important considerations to be taken into account by the nursing staff in the approach to the pregnant woman
- ♦ Know how to proceed with psychiatric patients, providing the professional with the necessary tools to intervene safely and effectively in a psychiatric emergency situation, both individually and as part of a team
- ♦ Acquire the technical skills to approach simulation as well as to lead a working group to establish training plans in their service or institution



*With this program, we want to meet your objective of acquiring superior knowledge in this in-demand field"*

04

# Course Management

The program includes in its teaching staff reference specialists in Emergency Nursing, Emergency and Advanced Disaster and other related areas, who contribute their work experience to this program. In addition, other specialists of recognized prestige participate in its design and elaboration, completing the program in an interdisciplinary manner. All of this, with the aim of providing nurses with the most complete information and contents of the educational panorama so that they can practice their profession with greater guarantees of success.





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*Learn about the latest advances in procedures in the field of nursing in emergencies and disasters from leading professionals”*

## Management



### Ms. Souto Novas, Ana María

- Nurse Emergency Supervisor at La Paz University Hospital
- Admission Nurse at La Paz University Hospital
- 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 in 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

## Professors

### 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

### Dr. Estebanz 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
- ◆ PhD in Medicine and Surgery from the Autonomous University of Madrid.
- ◆ Graduate in Nursing from the Autonomous University of Madrid.
- ◆ Master's Degree in Accident, Emergencies and Critical Nursing Care given by the European University of Madrid

#### **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

#### **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 Ill 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



# 05

## Structure and Content

The structure of the contents has been designed by a team of professionals from the best hospitals and universities of the national territory, aware of the relevance of current education in order to prevent, detect and intervene in those pathologies with which the patient may come to the emergency department and that require specific attention. All this, with the aim of educating nurses who are much more competent and prepared to care for patients with different symptomatology in accident and emergency departments, both in and out-of-hospital.





“

*This Master's Degree in Emergency Nursing, Advanced Emergencies and Disasters contains the most complete and up-to-date scientific program on the market”*

## Module 1. Management and Planning of Care in Accidents, Emergencies and Disasters

- 1.1. Past, Present and Future of Accident and Emergency Services. New Therapeutic Approach
- 1.2. Epidemiology and Criteria for Emergency Department Saturation
- 1.3. Legal framework for Urgent and Emergency Care
- 1.4. Ethics Framework for Urgent and Emergency Care
- 1.5. Humanization. The Role of Nurses
- 1.6. Management and Quality
- 1.7. Registration Systems and Standardized Language. Contingency Plans
- 1.8. Financial Resources for Emergency Health Care
- 1.9. Patient Security

## Module 2. Triage. Advanced Disaster Approach

- 2.1. Structuring of Accident and Emergency Services
- 2.2. Advanced Nursing Life Support (ALSN)
- 2.3. Multiple Victim Incidents and Disasters. Types and Characteristics
- 2.4. Triage Systems
- 2.5. Emergency Planning and Action Procedures
- 2.6. CBRN Incidents
- 2.7. Management of Fatalities and Victims. Humanitarian Assistance in Disasters
- 2.8. Medical Rescue in Special Situations
- 2.9. Medical Transport and Patient Transfer

## Module 3. Advanced Vital Support

- 3.1. Introduction to Life Support
- 3.2. Advanced Life Support in Adults
- 3.3. Advanced Pediatric Life Support
- 3.4. Life Support in Special Situations
- 3.5. Advanced Life Support in the Patient with SARS-CoV-2 Infection
- 3.6. Advanced CPR Procedures and Techniques
- 3.7. Post-Resuscitation Care
- 3.8. Organ and Transplants Donation
- 3.9. Ethical Dilemmas and Legal Framework





#### Module 4. Advanced Approach to the Patient with Heart Disease

- 4.1. Electrocardiography
- 4.2. Bradyarrhythmias
- 4.3. Tachyarrhythmias
- 4.4. Other Alterations in Electrical Conductivity
- 4.5. Implantable Devices
- 4.6. Cardioversion and Defibrillation
- 4.7. Mechanical Devices and other Therapeutic Techniques
- 4.8. Acute Coronary Syndrome. The Heart Attack Code

#### Module 5. Advanced Approach to the Patient with Respiratory Pathology

- 5.1. Respiratory Physiology and Mechanical Ventilation
- 5.2. Gas Exchange Alterations
- 5.3. Advanced Airway Management.
- 5.4. Difficult Airway
- 5.5. Potentially Severe Respiratory Pathology
- 5.6. Invasive Mechanical Ventilation
- 5.7. Non-Invasive Mechanical Ventilation
- 5.8. Update on Ventilatory Therapies
- 5.9. Advanced Nursing Care of the Respiratory Patient

#### Module 6. Advanced Approach to other Potentially Serious Pathologies

- 6.1. Assessment of the Neurological Patient Scales
- 6.2. Stroke. Stroke Code
- 6.3. Ketoacidosis and Hyperosmolar Coma
- 6.4. Gastrointestinal Bleeding
- 6.5. Cardiogenic and Hypovolemic Shock. Hemodynamic Assessment and Management
- 6.6. Obstructive and Distributive Shock. Hemodynamic Assessment and Management
- 6.7. Severe Infections: SEPSIS Code
- 6.8. Alterations in the Hydroelectrolyte Balance
- 6.9. Alterations in the Acid-base Equilibrium. Advanced Interpretation of Gassometry
- 6.10. Fluid Therapy and Transfusions

- 6.11. Advanced Nursing Care in Intravascular Catheters. Bacteremia Zero

### Module 7. Advanced Approach to Traumatologic Emergencies

- 7.1. Magnitude and Epidemiology of Severe Trauma
- 7.2. Assessment and Stabilization of the Trauma Patient
- 7.3. The Polytraumatized Patient
- 7.4. Damage Control Resuscitation
- 7.5. Burns. Assessment and Management of the Severely Burned Patient
- 7.6. Advanced Nursing Care in Acute and Chronic Wounds Sutures
- 7.7. Fractures and Dislocations. Splinting and Casting
- 7.8. Pain as the 5th Vital Constant. Assessment and Management

### Module 8. Rare Contagious Diseases

- 8.1. Congenital Coagulopathies
- 8.2. Chemical Sensitivity
- 8.3. Main Infectious and Contagious Pathologies
- 8.4. Epidemiology, Pathogenesis, Pathophysiology, and Transmission Mechanisms of Coronavirus Infections
- 8.5. Microbiological Diagnosis and Management of SARS-CoV-2 Infection
- 8.6. Hemorrhagic Fevers
- 8.7. Insulation and Safety Measures
- 8.8. Dangerous Waste and Drug Management
- 8.9. Personal Protective Equipment (PPE). Staff Training and Simulation
- 8.10. Emergency Service Adaptation to New Infectious and Contagious Diseases

### Module 9. Care Applied to the Different Life Stages of a Patient in the Emergency Unit

- 9.1. The Anatomical and Physiological Changes in the Pregnant Woman
- 9.2. Major Pregnancy Urgent Pathologies
- 9.3. Delivery Assistance and Immediate Care
- 9.4. Anatomical and Physiological Characteristics of the Pediatric Patient
- 9.5. Major Pediatric Urgent Pathologies
- 9.6. Special Considerations in Therapeutics and Pharmacology
- 9.7. Gender Violence and Abuse

- 9.8. Situation of the Last Days Palliative Sedation and Euthanasia
- 9.9. Communication with the Family and Coping with Mourning

### Module 10. Toxicology and Advanced Approach to the Psychiatric Patient

- 10.1. Drugs of Abuse and Intoxication. Chemical Submission
- 10.2. Advanced Management of Acute Poisoning Antidotes
- 10.3. Epidemiology and Legal Framework of the Psychiatric Patient
- 10.4. Self-Induced Suicidal Ideation and Attempt
- 10.5. Behavioral Alterations
- 10.6. Communication Strategies and Verbal Restraint
- 10.7. Mechanical Restraint and Safety
- 10.8. Emotional Impact on Working Staff in Emergency Departments

### Module 11. Teaching Methods and New Technologies in the Emergency Department

- 11.1. Physical Fundamentals of Ultrasound, History and Advances
- 11.2. Identification of Structures, Planning and Application of Ultrasound in Advanced Emergency Department Practice
- 11.3. Limitations in the Use of Ultrasound for Patient Assessment in Emergency Departments
- 11.4. Assessment of Venous Capital and Vascular Economy, Ultrasound Approach to Venous Access in the ED
- 11.5. Long-term Catheter Insertion, Feasibility and Alternatives to Short Peripheral Cannulae
- 11.6. Ultrasound-guided/echo-assisted Procedures as a Support to Care Practice (Bladder Catheterization, Nasogastric Catheterization, Obtaining Samples)



- 11.7. Alternatives to Radiodiagnostics in Catheter Tip Localization
- 11.8. Teaching in Emergency Care, Educational Planning and Objectives for Students
- 11.9. Practicality of the Simulation and Updating of Knowledge
- 11.10. Communication Techniques in Clinical Simulation Scenario Preparation

## Module 12. Update on Coronavirus Infections

- 12.1. Discovery and Evolution of Coronaviruses
  - 12.1.1. Discovery of Coronaviruses
  - 12.1.2. Global Trends in Coronavirus Infections
- 12.2. Main Microbiological Characteristics and Members of the Coronavirus Family
  - 12.2.1. General Microbiological Characteristics of Coronaviruses
  - 12.2.2. Viral Genome
  - 12.2.3. Principal Virulence Factors
- 12.3. Epidemiological Changes in Coronavirus Infections from its Discovery to the Present
  - 12.3.1. Morbidity and Mortality of Coronavirus Infections from their Emergence to the Present
- 12.4. The Immune System and Coronavirus Infections
  - 12.4.1. Immunological Mechanisms Involved in the Immune Response to Coronaviruses
  - 12.4.2. Cytokine Storm in Coronavirus Infections and Immunopathology
  - 12.4.3. Modulation of the Immune System in Coronavirus Infections
- 12.5. Pathogenesis and Pathophysiology of Coronavirus Infections
  - 12.5.1. Pathophysiological and Pathogenic Alterations in Coronavirus Infections
  - 12.5.2. Clinical Implications of the Main Pathophysiological Alterations
- 12.6. Risk Groups and Transmission Mechanisms of Coronaviruses
  - 12.6.1. Main Sociodemographic and Epidemiological Characteristics of Risk Groups Affected by Coronavirus
  - 12.6.2. Coronavirus Mechanisms of Transmission
- 12.7. Natural History of Coronavirus Infections
  - 12.7.1. Stages of Coronavirus Infection
- 12.8. Latest Information on Microbiological Diagnosis of Coronavirus Infections

- 12.8.1. Sample Collection and Shipment
- 12.8.2. PCR and Sequencing
- 12.8.3. Serology Testing
- 12.8.4. Virus Isolation
- 12.9. Current Biosafety Measures in Microbiology Laboratories for Coronavirus Sample Handling
  - 12.9.1. Biosafety Measures for Coronavirus Sample Handling
- 12.10. Up-to-Date Management of Coronavirus Infections
  - 12.10.1. Prevention Measures
  - 12.10.2. Symptomatic Treatment
  - 12.10.3. Antiviral and Antimicrobial Treatment in Coronavirus Infections
  - 12.10.4. Treatment of Severe Clinical Forms
- 12.11. Future Challenges in the Prevention, Diagnosis, and Treatment of Coronavirus
  - 12.11.1. Global Challenges for the Development of Prevention, Diagnostic, and Treatment Strategies for Coronavirus Infections



*A unique education opportunity  
to advance your career"*

06

# Methodology

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.





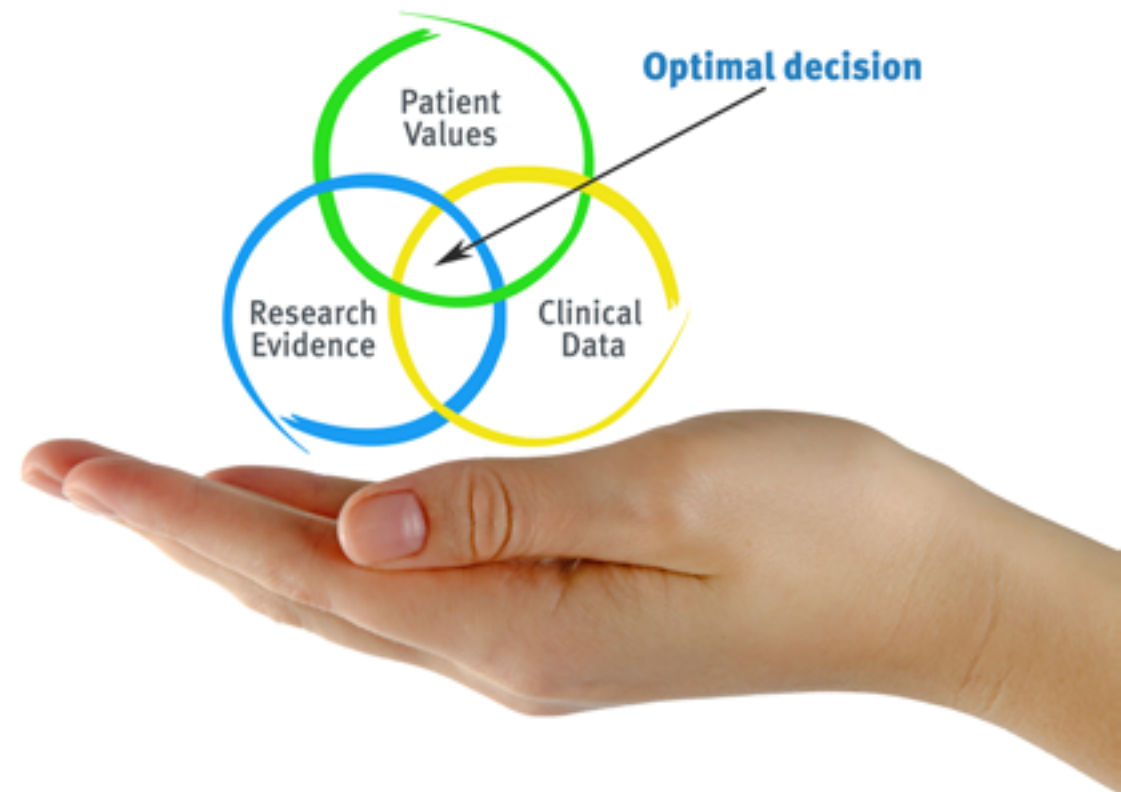
“

*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 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.

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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. 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

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

*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.*



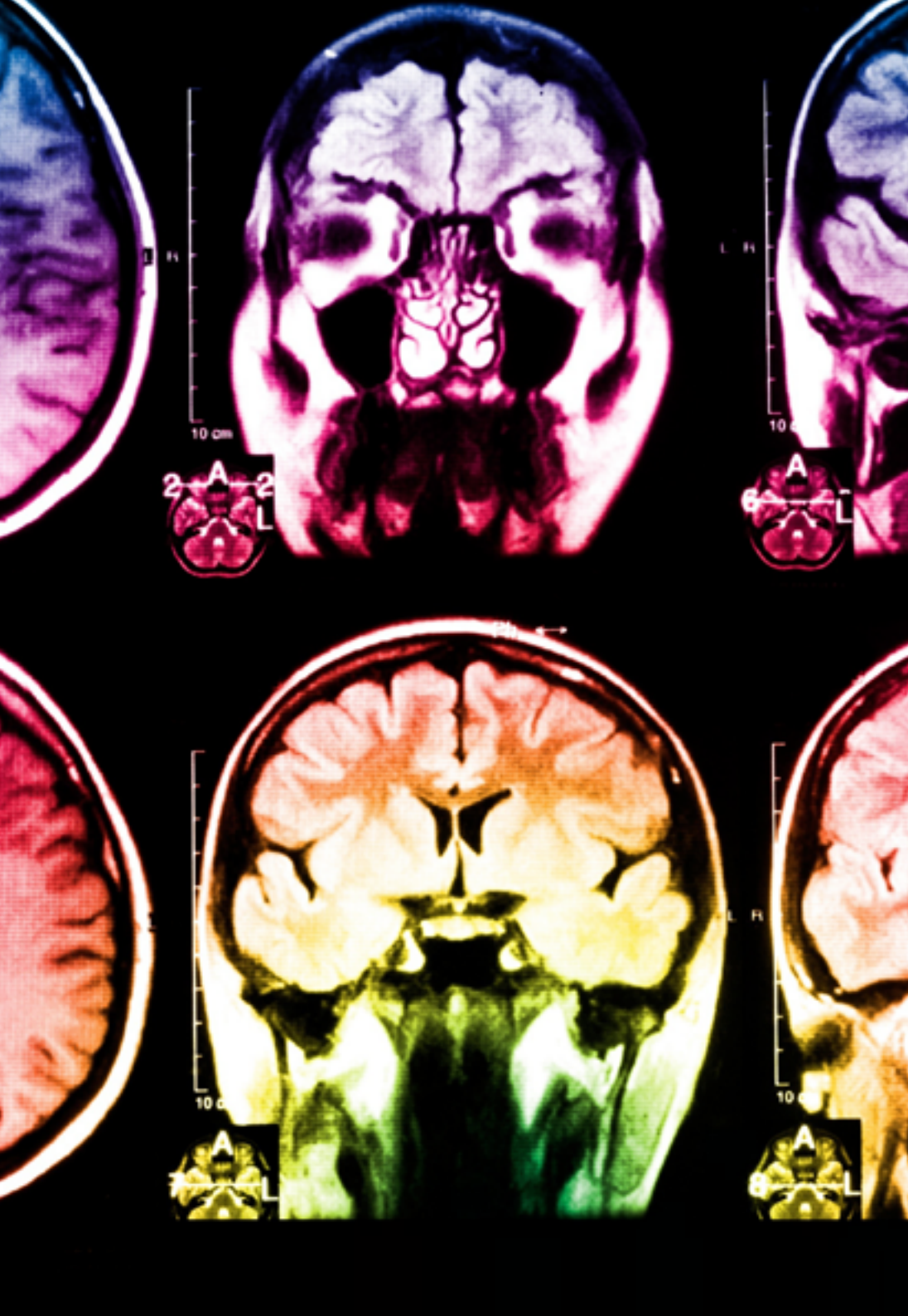
At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, we have prepared more than 175,000 nurses with unprecedented success in all specialties regardless of practical workload. Our educational 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 adapted in 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

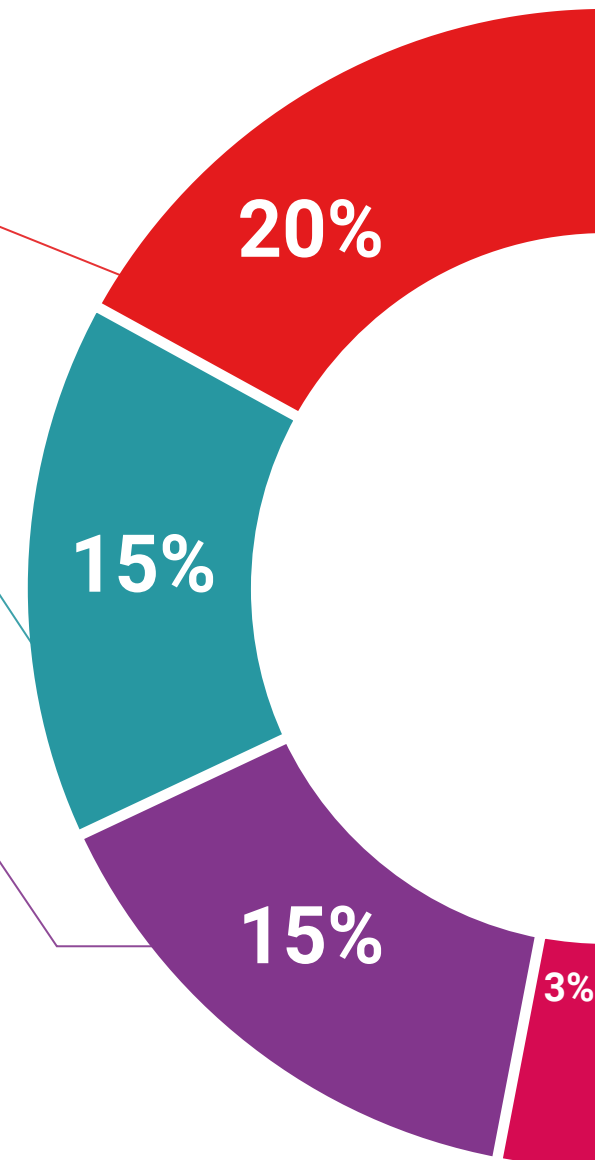
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 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

The student's knowledge is periodically assessed and re-assessed throughout the program, through evaluative and self-evaluative activities and exercises: in this way, students can check how they are doing in terms of 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.



# 07 Certificate

The Master's Degree in Emergency Nursing, Advanced Emergencies and Disasters guarantees students, in addition to the most rigorous and up-to-date education, access to a Master's Degree 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 program will allow you to obtain your **Master's Degree diploma in Emergency Nursing, Advanced Emergencies and Disasters** 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.

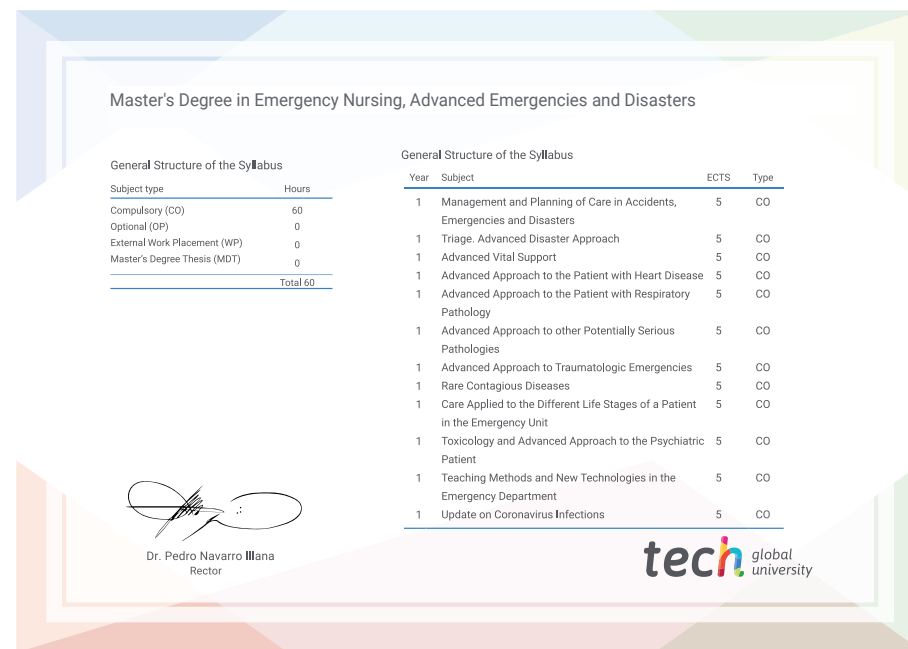
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Master's Degree in Emergency Nursing, Advanced Emergencies and Disasters**

Modality: **online**

Duration: **12 months**

Accreditation: **60 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.



**Master's Degree**  
Emergency Nursing,  
Advanced Emergencies  
and Disasters

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

# Master's Degree

## Emergency Nursing, Advanced Emergencies and Disasters

