

# Professional Master's Degree Advanced Emergency Nursing





## Professional Master's Degree Advanced Emergency Nursing

Course Modality: Online

Duration: 12 months.

Certificate: TECH Technological University

60 ECTS Credits

Teaching Hours: 1,500 hours.

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

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# 01

# Introduction

Hospital and out-of-hospital emergencies are increasingly changing environments that require nursing professionals trained to work successfully in emergency and disaster situations. Therefore, the programming of this program will enable students to provide advanced care to the multi-pathological patient, which requires out-of-hospital care and continuity of care in an emergency department of the health center. To this end, it is based on anatomico-physiological knowledge and its alteration in the main emergency pathologies, which 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 Advanced Emergency Nursing 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 departments of hospitals and all types of healthcare centers. This is because the professionals who work there encounter critical situations of all kinds on a daily basis, which put their response capabilities and knowledge to the test. In the field of nursing, the same situation arises, so TECH professionals have designed this very complete program, which aims to train nursing professionals to be able to work in these environments with a much higher degree of success in their interventions.

Particularly, the training related to emergency treatment by the nurse is of vital importance, because many times the first contact with the patient's health, who is in a generally complex situation, routes the rest of the medical care that is taken. Therefore, nursing professionals must be highly qualified to provide solutions to the wide range of pathologies that are treated in emergency departments, especially those that require in-depth knowledge and special training due to their severity, complexity and/or, in many cases, exigency.

In this sense, the Professional Master's Degree in Nursing in Emergencies and Advanced Catastrophes, aims to train students to deal with a multitude of emerging problems and high degree of complexity, providing the knowledge and tools necessary to respond to a demand for increasingly advanced care, respecting the highest degree of evidence.

This very complete training also represents a great differential value when it comes to understanding the structure developed both in early care and 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 arise.

On the other hand, emergency units are made up of a network of healthcare professionals who offer increasingly complex multidisciplinary care. Therefore, in order 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 proactive decision-making capacity.

This **Professional Master's Degree in Advanced Emergency Nursing** 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 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 in Emergency Nursing, Emergencies and Advanced Catastrophes, through this program, where you will find the best didactic material with real cases".*

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*This Professional Master's Degree is the best investment you can make in the selection of a refresher program for two reasons for two reasons: in addition to updating your knowledge in Advanced Emergency Nursing, you will get a Professional Master's Degree from TECH Technological University".*

*The Professional Master's Degree allows students to train through simulated environments, which provides them with immersive learning programmed to train in real situations.*

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

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.

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 training programmed to train in real situations.

This program is designed around Problem Based Learning, whereby professionals must try to solve the different professional practice situations, that arise during the program. To do so, the professional will be assisted by an innovative interactive video system, created by renowned and experienced experts in Advanced Emergency Nursing.



# 02 Objectives

The main objective pursued by the program is the development of theoretical and practical learning, so that the professional can master in a practical and rigorous way the study of emergencies, emergencies and advanced catastrophes, in the daily practice of your profession. In this sense, the Professional Master's Degree in Advanced Emergency Nursing responds to the continuous demand of professionals for quality training in this regard, which serves as a means to use 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 provide you with a sense of confidence in your daily work, which will help you grow both personally and professionally”*



## General Objectives

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- ♦ Acquire the knowledge, skills and attitudes necessary in the emergency area that will allow, in an adequate way, to make decisions in critical moments based on the patient's needs.
- ♦ Examine the main bioethical problems and be able to deal with them.
- ♦ Recognize the characteristics of emergency saturation, in order to adopt a proactive attitude, anticipating in decision making.
- ♦ Train students in the competencies that will enable them to plan objectives and strategies in accordance with the guidelines of the healthcare organization.
- ♦ Identify the main resources involved in out-of-hospital health care
- ♦ Develop the different systems for classifying victims in any environment or setting
- ♦ Describe the different interventions developed in a large-scale event
- ♦ Learn how to manage the different areas of an event involving a large number of affected persons
- ♦ Train for an adequate performance in vital emergency situations, according to internationally recognized updated protocols.
- ♦ Provide precise theoretical knowledge to be able to understand and correctly apply the maneuvers and treatments of basic life support and advanced life support.
- ♦ Master the algorithms of basic life support and advanced life support, both in adult and pediatric patients.
- ♦ Know the peculiarities of resuscitation in special situations.
- ♦ Recognize the main cardiological pathologies that involve a high vital compromise.
- ♦ Differentiate the multiple therapies and treatments recommended for the resolution of a cardiac event.
- ♦ Identify time-dependent cardiac pathology in order to achieve an orderly response from the different resources involved.



- ♦ Deepen the knowledge necessary for the management of patients requiring 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 the alternatives to conventional mechanical ventilation, through the new ventilatory devices.
- ♦ Delve into the advanced care applicable to a patient with respiratory pathology.
- ♦ Training in the comprehensive approach to patients with other serious or potentially serious pathologies that require early identification and priority, complex, and multidisciplinary care.
- ♦ Acquisition of advanced knowledge on the main hydroelectrolytic and acid-base alterations.
- ♦ Review of the management of infections in the emergency department and recommendations on the use of catheters.
- ♦ In-depth study of volume replacement therapies.
- ♦ In-depth discussion of the advanced management of the severe trauma patient, the major burn patient, and associated complications
- ♦ Review the main damage control resuscitation strategies and their application in different healthcare settings
- ♦ Examine the most optimal strategies for patient pain control from a biopsychosocial approach
- ♦ Review the main rare pathologies relevant to hospital emergencies, for their advanced management.
- ♦ Deepen on the pathophysiology and transmission mechanism of SARS-CoV2 disease and its subsequent sequelae.
- ♦ Train on the identification and management of diseases characterized by hemorrhagic fevers.
- ♦ Develop protocols related to personal protective equipment, waste management and worker safety.
- ♦ Acquisition of knowledge about 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 of the most relevant considerations to be taken into account at the time of assessment, diagnosis, and treatment.
- ♦ Development of strategies for the communication of bad news and patient approach in complex vital situations, such as the patient subjected to abuse or the palliative patient.
- ♦ Recognizing the main needs of the patient in the last days situation, and deepening in an adequate pain management.
- ♦ Training for the integral management of the acutely intoxicated patient and approach to the main toxicological emergencies.
- ♦ Development of knowledge about the main drugs of abuse and antidotes used in emergency departments.
- ♦ Review of the main psychiatric pathologies that require the use of an emergency department, and update of nursing care in the patient with mental pathology.
- ♦ Deepen knowledge of epidemiology, legislation, and nursing care in the psychiatric patient.
- ♦ Deepen theoretical knowledge on how ultrasound works, as well as its practical application in emergency care.
- ♦ Understand the elements visualized in the ultrasound examination.
- ♦ Develop effective strategies in the transmission of knowledge to other professionals, through the development of scenarios, workshops, or simulations.



## Specific Objectives

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### Module 1. Management and planning of emergency care and emergencies

- ♦ Know the fundamentals and historical evolution of emergency health care, as well as the new therapeutic approaches currently available
- ♦ Acquire knowledge about epidemiology in Emergency Departments; plasticity and elasticity in situations of saturation, and its functional and structural restructuring in special situations (epidemics and pandemics)
- ♦ Understand the most relevant legal and ethical aspects in emergency health care. Broaden theoretical knowledge and its clinical applicability
- ♦ Identify the main ethical dilemmas in Emergency Departments. Know the bioethical principles and their prioritization in pandemic situations
- ♦ Review humanization in emergency departments and the peculiarity of its implementation. Know the characteristics of the emergency nursing profile, as well as their different professional roles
- ♦ Increase knowledge on emergency department management, peculiarities and challenges, as well as the definition and evaluation of quality: 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 commonly used models: ISO 9001, EFQM
- ♦ Deepen in the standardized nursing language (NANDA, NOC, NIC interrelationships) for its subsequent application in Emergency Departments.
- ♦ Acquire notions on the types of resources used in emergency healthcare and their impact on the healthcare system.
- ♦ Review the medical-legal aspects of patient safety and its multidisciplinary approach.
- ♦ Acquire knowledge related to patient safety, as well as to know the measures to improve patient safety in this area, as a key component of the quality of care.

### Module 2. Triage. Advanced Disaster Management

- ♦ Deepen in the different care models and the structural and functional peculiarities of the Emergency Services
- ♦ Deepen in the coordination between the different services of the health system, destined to provide assistance to the patient with urgent pathology
- ♦ Deepen the knowledge on Nursing Life Support, professional role and future challenges for the profession
- ♦ Know the types and characteristics of incidents with multiple victims and their special approach
- ♦ Promote an attitude of responsibility in the response to a disaster
- ♦ Obtain knowledge and skills on the main types of triage, both in and out-of-hospital, and triage in special situations, as well as the prioritization and implementation of new technologies in triage systems
- ♦ Understanding the types and characteristics of CBRN incidents: triage, operational procedures, health zoning and hospital preparedness
- ♦ Learning about casualty management in special situations and identification and framework for emergency response
- ♦ Showing the variety of situations that healthcare personnel must deal with
- ♦ Deepening 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 transport and patient transfer



### **Module 3. Advanced Life Support**

- ◆ Deepen knowledge of life support and management of AHA and ERC protocols.
- ◆ Know and understand the chains of survival for the optimal care of patients in different situations of imminent vital risk.
- ◆ Acquire advanced knowledge of advanced life support in the adult patient.
- ◆ Deepen advanced knowledge of advanced life support in the pediatric patient.
- ◆ Obtain advanced knowledge of advanced life support in special situations (pregnancy, traumatic emergencies, drowning, hypothermia, and drug intoxication).
- ◆ Learn advanced knowledge of 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.
- ◆ Deepen knowledge on the ethical-legal framework in the donor patient Review on epidemiology, organization and coordination of the transplantation system
- ◆ Address the main bioethical and legal dilemmas faced by health professionals: no CPR and limitation of therapeutic effort.

### **Module 4. Advanced Approach to Patients with Cardiac Pathology**

- ◆ Deepen theoretical and practical knowledge of advanced electrocardiography and its applicability in clinical nursing practice.
- ◆ Identify and learn the management of bradyarrhythmias. Acquisition of knowledge and skills for patient diagnosis and management.
- ◆ Identify and learn the management of tachyarrhythmias. Acquisition of knowledge and skills for patient diagnosis and management.
- ◆ Deepen knowledge of implantable devices (pacemakers, implantable Holter and ICD), identification of indications, outcomes and complications.

- ♦ Increase skills in advanced cardioversion and defibrillation management. Acquisition of knowledge and skills about the different therapeutic options: cardioversion (electrical and pharmacological) and/or defibrillation.
- ♦ Deepen the knowledge about new devices and therapies for the approach of the patient with cardiac pathology.
- ♦ Identify and classify atherosclerotic disease: angina, NSTEMI, NSTEMI Address ACS, and identify the management of the "Infarction Code" protocol.

#### **Module 5. Advanced approach to the patient with respiratory pathology**

- ♦ Deepen 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.
- ♦ Deepen in the pathophysiological concepts of gas exchange and respiratory mechanics related to respiratory failure.
- ♦ Identify the main pathological ventilatory patterns
- ♦ Detail existing devices for advanced airway management (supraglottic devices, Fastrach laryngeal mask, Combitube, etc.)
- ♦ Define Difficult Airway, both anticipated and emergent, main aspects of its detection and management strategy through the recommended algorithms.
- ♦ Review the phases of Rapid Sequence Intubation (RSEI)
- ♦ Acquire advanced knowledge on the different methods of invasive mechanical ventilation, as well as the different ventilatory methods.
- ♦ Deepen advanced knowledge of non-invasive mechanical ventilation modalities, their parameters and alarms.
- ♦ Show the new devices and therapies for ventilation 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 of 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 the patient with urgent neurological pathology.
- ♦ Deepen in the advanced management of stroke patients: early identification of alarm signs and symptoms and their potential impact on the patient. Approach and management of the "ICTUS Code" action protocol: inclusion and exclusion criteria, management and action plans.
- ♦ In-depth knowledge of endocrine-metabolic diseases with special associated mortality: early identification and management of diabetic ketoacidosis and hyperosmolar coma. Knowledge of the pathophysiology, pharmacological and non-pharmacological approach, 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 nursing role.
- ♦ Obtain knowledge on the latest recommendations in the approach to shock and changes in therapy.
- ♦ Deepen in the septic patient. Training for the identification and treatment of patients with severe infection. Approach and management of the "Sepsis Code" action protocol.
- ♦ Deepen the knowledge of the different hydroelectrolytic alterations: etiology, symptomatology, concomitant comorbidities and possible complications. Acquire the skills for the identification, assessment and approach
- ♦ Deepen the knowledge about the different acid-base disorders: etiology, symptoms, concomitant comorbidities and possible complications. Obtain skills for the identification, evaluation and approach. Review the knowledge on gasometric analysis.

- ♦ Update knowledge on intravenous therapy: indications and associated complications. Detail the incompatibilities of concomitant administration of drugs and to deepen in the advanced management of intravenous therapy.
- ♦ Analyze the urgent pathology of the patient undergoing blood product transfusion. Review of the general aspects of transfusions: advantages, complications and latest recommendations.
- ♦ Deepen the knowledge and skills for the choice 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 "Sepsis Code" protocol.
- ♦ Identify the algorithms for the choice of access, duration and withdrawal according to CDC recommendations.
- ♦ Identify the main risks related to catheter-associated infection.
- ♦ Learning strategies for the maintenance of venous accesses

### **Module 7. Advanced approach to trauma emergencies**

- ♦ Develop epidemiology in relation to the severe trauma patient and the epidemiological magnitude involved
- ♦ Deepen in the assessment and stabilization of the trauma patient, with specific procedures and techniques throughout the emergency health care process
- ♦ Know the resuscitation therapies related to severe trauma, focusing on damage control resuscitation
- ♦ Describe the action plan for a "Polytrauma Code"
- ♦ Update the procedure for mobilization and immobilization of the trauma patient
- ♦ Acquire advanced knowledge on burns, both in their assessment and management
- ♦ Plan nursing care based on identified problems
- ♦ Show the main therapeutic techniques and nursing care related to fractures and dislocations
- ♦ Deepen on pain management and acquire skills to perform advanced care

### **Module 8. Rare and infectious-contagious diseases.**

- ♦ Acquire the knowledge that will facilitate the assistance and skill in the care of patients with coagulopathies. Compare hemophilia A and B, analyze Von Willebrand's disease, as well as deepen in the coagulation factors.
- ♦ Learn more about chemical sensitivity, and to know the recommendations to be taken into account to acquire skills with which to deal with this type of patient. Make professionals aware of this health problem
- ♦ List and detail the main infectious pathologies
- ♦ Acquire the necessary knowledge and management of SARS CoV2 infection
- ♦ Identify the main complications of SARS CoV2 infection
- ♦ Acquire the necessary knowledge in the isolation and prevention of hospital infections, in order to provide quality and safe care, with the aim of reducing nosocomial infections. Know the incidence of nosocomial infections
- ♦ Deepen in the legal framework and waste management. Identify the risks involved in the so-called hazardous medications
- ♦ Detail the components of personal protective equipment and to deepen the necessary preparation for the professionals directly or indirectly involved
- ♦ Show the elasticity that an emergency department must have nowadays, as well as its capacity to adapt to special situations

### **Module 9. Care applied to the different vital stages of the patient in the emergency department**

- ♦ Deepen 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
- ♦ Acquisition of knowledge about the labor process, identifying the algorithms of the labor process and the care associated with each stage In order to identify the care to be carried out during the periods of dilatation, expulsion and delivery, as well as the immediate care required by the newborn

- ♦ Knowledge of the main anatomico-physiological characteristics of the pediatric patient, which characterize their special approach and treatment, delving into the most urgent pathologies
- ♦ Deepen in the therapeutics of significant vital stages, such as dosage management and identification of incompatibilities and/or contraindications
- ♦ Recognize the main items to be treated with patients of special vulnerability, such as those subjected to gender violence and/or abuse
- ♦ Deepen the knowledge necessary for a holistic approach to the patient in the last days situation, knowing the importance of the family and the psychosocial aspect Early recognition of incipient signs of discomfort and pain, knowing pain management and the main analgesic scales
- ♦ Acquisition of communication tools for the transmission of bad news and training for help during the bereavement process

#### **Module 10. Toxicology and advanced approach to the psychiatric patient**

- ♦ Deepen the knowledge necessary for the management and identification of the main toxicological emergencies and drugs of abuse
- ♦ Know the protocol of action in a case of "chemical submission"
- ♦ Recognize and distinguish those intoxications that require immediate attention, enabling the student to assess 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 nursing care of the patient with mental pathology
- ♦ Acquire the knowledge based on the evidence on Mental Health
- ♦ Deepen the knowledge on the approach to the psychiatric patient and its special conditions

- ♦ Acquire notions about the main psychiatric pathologies, in order to carry out a correct adequacy between the patient's needs and the interventions of the nursing staff
- ♦ Deepen in the main causes of attempted and self-induced suicidal ideation, as these pathologies are on the rise, with high mortality and incidence rates, especially in some age groups
- ♦ Be trained on the types of containment for the approach of the psychiatric patient, acquiring the capacity for a suitable choice and implementation of the same, according to the patient's needs
- ♦ Know the main epidemiological and morbidity data associated with mental pathology
- ♦ Know the current legislation on Mental Health
- ♦ Know the determinants and epidemiology of the main mental health problems in emergency department workers

#### **Module 11. Teaching methods and new technologies in emergency medicine**

- ♦ 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 of exploration
- ♦ Differentiate the anatomical planes appreciated in the generated image.
- ♦ Locate the objects of the scan and know how they behave during the scan
- ♦ 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 examinations
- ♦ Deepen the knowledge of 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 catheters, identifying the intervening structures
- ♦ To know the sequence and planes for FAST(*Focused Abdominal Sonography in Trauma*) scanning
- ♦ Develop adequate technique for the estimation and calculation of bladder volume
- ♦ Know the indications of the intracavitary electrode technique as a way to locate the end of central catheters
- ♦ Know and apply the different paradigms that support simulation methodology for the improvement and development of emergency teams
- ♦ Incorporate new perspectives of clinical training through simulation techniques
- ♦ Acquire basic knowledge in 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 simulation communication (*briefing* and *debriefing*) as a method to aid in the development of communication and emotion management skills in the clinical setting

### **Module 12. Update on Coronavirus Infections**

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

# 03 Skills

After passing the evaluations of the Professional Master's Degree in Advanced Operating Accidents, Emergencies and Disasters Nursing, the nurse will have acquired the professional competencies necessary for quality and up-to-date practice based on the latest scientific evidence. Thus, after completing the training, the professional will be much better able to provide quality primary care in emergency and urgent services, and better refer the patient as appropriate. This, in addition to making you a much more qualified nurse, will help you to position yourself as a professional of reference in the sector, thus achieving better working conditions.





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*Take the opportunity and take the step, to get up to date on the latest developments in the management of Emergencies and Advanced Disasters, from the 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
- ◆ Apply acquired knowledge and problem-solving skills in new , or unfamiliar environments , within broader (or multidisciplinary) contexts related to their area of study
- ◆ Enable Nurse to integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities related to the application of their knowledge and judgments
- ◆ That students know how to communicate their conclusions, the knowledge and ultimate reasons that support them, to specialized and non-specialized audiences in a clear and unambiguous manner
- ◆ Ensure that Nurse possess the learning skills that will enable them to continue studying , in a , manner that will be largely self-directed or autonomous





## Specific Skills

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- ♦ Understand the role of nursing at a time when humanization is becoming a relevant gap in healthcare
  - ♦ To be able to optimally identify those patients who are in the most serious 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 aid and, in special situations, to initiate rescue maneuvers
  - ♦ Understand the functioning of those special situations where nursing actions have to be adapted
  - ♦ Be able to apply those advanced procedures and techniques that are frequently performed in this environment, such as intraosseous line 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 of cardiac arrest
  - ♦ Know how to use electrocardiography in order to identify cardiac alterations in a timely manner
  - ♦ Have a deep understanding of ventilation, associated to the devices they will have to use in the environments where they develop their assistance activity and the different therapies used
  - ♦ Understand how to work with patients in shock, on which they 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, based on the latest recommendations of scientific evidence, to perform quality hemodynamic management
- ♦ Understand the guidelines that should be followed when performing a correct assessment and identification of this patient, as well as the most advanced treatments and associated therapies that the nursing staff should be aware of
  - ♦ Know how SARS-CoV2 and hemorrhagic fevers affect patients
  - ♦ Understand the anatomo-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 deal with simulation, as well as to lead a working group aimed at establishing training plans in their department or institution



*With this program we want to meet your objective of acquiring superior training in this highly demanded field."*

04

# Course Management

The program's teaching staff includes leading specialists in of accidents, emergencies and Advanced Disasters nursing and other related areas, who bring their years of work experience to this training 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 Nurse 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 from leading professionals, the latest advances in procedures in the field of nursing in emergencies and disasters”*

## Management



### Mr. Ruiz López, Daniel

- ◆ Nursing Supervisor in the Adult Emergency Department of the La Paz University Hospital(Madrid)
- ◆ Nursing Supervisor in the Adult Emergency Department of the La Paz University Hospital(Madrid)
- ◆ University 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
- ◆ Honorary professor of practicum, University of Alcalá in the 2010-2011 academic year.
- ◆ Doctor at La Paz University Hospital
- ◆ Life Support Trainer, Hospital Universitario La Paz and Autonomous University of Madrid
- ◆ Training Course for Trainers and Auditors in Triage Manchester. Spanish Triage Group





### Ms. Souto Novas, Ana María

- ◆ Emergency Supervisor at La Paz University Hospital
- ◆ Admitting Nurse La Paz University Hospital
- ◆ Diploma in Nursing, Salamanca Pontifical University.
- ◆ Degree in Social and Cultural Anthropology, Autonomous University of Madrid.
- ◆ Master in Care Integration and Critical Nursing Problem Solving, Alcalá University.
- ◆ University Expert in Nursing Services Management and Leadership.
- ◆ University Expert in Emergency Medicine, Complutense University of Madrid.
- ◆ Priority Triage in the Emergency Department Manchester System
- ◆ Lecturer in the course "Training in the Disaster and Self-Protection Plan"
- ◆ Member of the Disaster Commission, La Paz University Hospital

## Professors

### Ms. Peinado Quesada, María Angustias

- ◆ Emergency Services Nurse at HULP
- ◆ Diploma in Nursing
- ◆ Master's Degree in Assessment and Management of the Critically Ill Patient from St. George's University in London, UK.
- ◆ Expert in Emergency and Critical Care Nursing Care
- ◆ Expert in Nursing in the Intensive Care Unit.
- ◆ Expert in Advanced Medical Ventilation in Nursing
- ◆ Collaborating Professor, Autonomous University of Madrid, Spain

### Ms. Santamaría Estebanz, Cristina

- ◆ Nurse in the Emergency Department, La Paz University Hospital.
- ◆ Graduate in Nursing, Autonomous University of Madrid (School of Peace).
- ◆ Doctorate in Medicine and Surgery, Autonomous University of Madrid.
- ◆ Official Master's Degree in Emergency and Critical Care Nursing, European University of Madrid.
- ◆ Associate Professor of the Degree in Nursing, UAM
- ◆ Main tutor of clinical practices of students of Nursing Degree, UAM
- ◆ Principal Tutor of Master in Critical Illness and Emergencies, UAM

**Mr. Galbis Palma, Alejandro**

- ♦ Adult Emergency Department Nurse HULP
- ♦ University Diploma in Nursing
- ♦ Course on Nursing application of techniques in emergencies
- ♦ Course on Nursing interventions in the face of catastrophes
- ♦ Course on Instrumentalized life support
- ♦ Course in basic cardio-pulmonary resuscitation in adults
- ♦ Course on instrumented CPR
- ♦ Course on Refresher program in care for hospitalized patients in internal medicine
- ♦ Course on Special care for renal patients
- ♦ Course in Intravenous therapy and PICC implantation
- ♦ Course on Nursing in vascular access and intravenous therapy

**Mr. García Garrido, Miguel Ángel**

- ♦ Adult Emergency Department Nurse HULP
- ♦ University Diploma in Nursing.
- ♦ Master's Degree Health Emergencies and Disasters.", University of León
- ♦ Master's Degree in Critical Illness and Emergencies, University of Barcelona
- ♦ Master's Degree in Clinical Research, University of Barcelona
- ♦ Advanced Life Support Course
- ♦ Course on Advanced Life Support in Trauma
- ♦ Course on Basic and Advanced CPR in Pediatrics

**Ms. Gómez Lage, Laura**

- ♦ Adult Emergency Department Nurse HULP
- ♦ Graduate Degree in Nursing, Complutense University of Madrid.
- ♦ University Expert in the Nursing Processes and Interventions of Pediatric Patients in Life Threatening Situations
- ♦ Postgraduate Certificate in Emotional Development and Child Rearing, FUDEN and Catholic University of Avila
- ♦ Course in Nursing Basics in Emergencies
- ♦ Course in Emergency Medicine in Institutionalized Patient Care
- ♦ Course in Practical Pharmacology in Emergencies and Emergencies
- ♦ Course on Nursing Care of Healthy Newborns
- ♦ Course on Frequently Used Medicines



# 05

# Structure and Content

The structure of the contents has been designed by a team of professionals from the best hospitals and universities in the national territory, aware of the relevance of current training 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 training nurses much more competent and prepared to care for patients, with different symptomatology, in emergency departments and emergencies, both hospital and outpatient.





“

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

### Module 1. Management and Planning of Emergency Care

- 1.1. Past, Present and Future of Emergency Services. New Treatment Approaches
- 1.2. Epidemiology and ER Overcrowding Criteria
- 1.3. Legal Framework in Emergency Care
- 1.4. Ethical Framework in Emergency Care
- 1.5. Humanization. The Role of Nursing
- 1.6. Quality and Management
- 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 Management

- 2.1. Structuring of Emergency Care Services
- 2.2. Advanced Life Support for Nurses (ALS)
- 2.3. Multiple Casualty Incidents and Catastrophes. Types and Characteristics
- 2.4. Triage Systems
- 2.5. Emergency Plans and Procedures
- 2.6. CBRN Incidents
- 2.7. Management of Fatalities and Casualties. Humanitarian Aid in Disasters
- 2.8. Medical Rescue in Special Situations
- 2.9. Medical Transport and Patient Transfer

### Module 3. Advanced Life 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 SARS Cov-2 Infected Patients
- 3.6. Advanced CPR Techniques and Procedures
- 3.7. Post-Resuscitation Care
- 3.8. Organ Donation and Transplantation
- 3.9. Ethical Dilemmas and Legal Framework





#### Module 4. Advanced Approach to Patients with Cardiac Pathology

- 4.1. Electrocardiography
- 4.2. Bradyarrhythmias
- 4.3. Tachyarrhythmias
- 4.4. Other Electrical Conductivity Disorders
- 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 Patients with Respiratory Pathology

- 5.1. Respiratory Physiology and Mechanical Ventilation
- 5.2. Gas Exchange Disorders
- 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 Respiratory Patients

#### Module 6. Advanced Approach to Other Potentially Severe Pathologies.

- 6.1. Assessment of Neurological Patients. Scales
- 6.2. Stroke. Code Stroke
- 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: Code Sepsis
- 6.8. Water-Electrolyte Imbalance
- 6.9. Acid-Base Imbalance Advanced Interpretation of Blood Gas Measurements
- 6.10. Fluid Therapy and Transfusions

6.11. Advanced Nursing Care in Intravascular Catheters. Bacteriemia Zero

### Module 7. Advanced Approach to Trauma Emergencies

- 7.1. Severe Trauma Magnitude and Epidemiology
- 7.2. Trauma Patient Assessment and Stabilization
- 7.3. Polytraumatized Patients
- 7.4. Damage Control Resuscitation
- 7.5. Burns. Assessment and Management of Major Burn Injuries
- 7.6. Advanced Nursing Care in Acute and Chronic Wounds. Sutures
- 7.7. Fractures and Dislocations. Application of Splints and Casts
- 7.8. Pain as the Fifth Vital Sign. Assessment and Management

### Module 8. Rare, Infectious and Contagious Diseases.

- 8.1. Congenital Coagulopathies
- 8.2. Chemical Sensitivity.
- 8.3. Main Infectious and Contagious Pathologies
- 8.4. Coronavirus Infections Epidemiology, Pathogenesis, Pathophysiology and Transmission Mechanisms
- 8.5. SARS CoV2 Microbiological Diagnosis and Management
- 8.6. Hemorrhagic Fevers
- 8.7. Insulation and Safety Measures
- 8.8. Hazardous Waste and Pharmaceutical Management
- 8.9. Personal Protective Equipment (PPE). Staff Training and Simulations
- 8.10. Adaptation of an Emergency Department to New Infectious and Contagious Diseases

### Module 9. Care during the Different Vital Stages For Patients in the Emergency Room

- 9.1. Anatomical and Physiological Changes during Pregnancy
- 9.2. Main Emergency Pathologies during Pregnancy
- 9.3. Delivery Assistance and Immediate Care
- 9.4. Anatomical and Physiological Characteristics of Pediatric Patients
- 9.5. Main Emergency Pediatric Pathologies
- 9.6. Special Therapeutic and Pharmacological Considerations
- 9.7. Gender Violence and Abuse
- 9.8. The Patient's Final Days. Palliative Sedation and Euthanasia
- 9.9. Communication with the Family and Coping with Bereavement

### Module 10. Toxicology and Advanced Approach to Psychiatric Patients

- 10.1. Substance Abuse and Poisoning. Chemical Submission
- 10.2. Advanced Management of Acute Poisoning. Antidotes
- 10.3. Epidemiology and Legal Framework of Psychiatric Patients
- 10.4. Suicidal Ideation and Attempted Suicide
- 10.5. Behavioral Disorders
- 10.6. Communication Strategies and Verbal Restraint
- 10.7. Mechanical Restraint and Safety
- 10.8. Emotional Impact on Emergency Department Workers

### Module 11. Teaching Methods and New Technologies in Emergency Medicine

- 11.1. Physical Fundamentals, History and Advances in Ultrasound
- 11.2. Identification of Structures, Planes and Application of Ultrasound in Advanced Emergency Practice
- 11.3. Limitations in the Use of Ultrasound for Patient Assessment in Emergency Departments
- 11.4. Assessment of Central Line and Venous 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/Assisted Procedures to Support Care Practice (Bladder Catheterization, Nasogastric Catheterization, Specimen Collection)
- 11.7. Alternatives to Radiodiagnostics in Catheter Tip Localization
- 11.8. Teaching in Emergency Medicine, Training Plans and Objectives for Students
- 11.9. Practicality of Simulation and Updating 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 training opportunity to advance your career"*

06

# Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

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***.



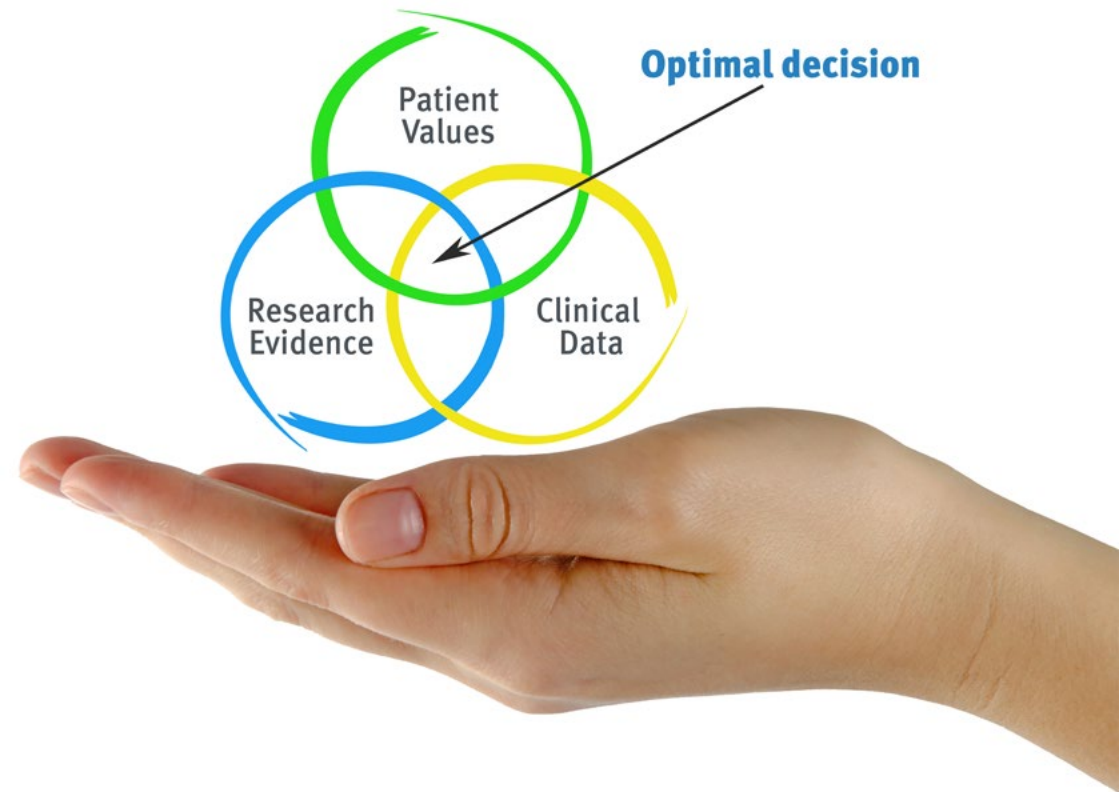
“

*Discover Re-learning, 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 abundant 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. Gervas, 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.



## Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

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.*

At the forefront of world teaching, the Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking 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 high socioeconomic profile and an average age of 43.5 years old.

*Re-learning 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 multimedia content presentation training Exclusive system 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 & Re-testing

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 Professional Master's Degree in Advanced Emergency Nursing guarantees you, in addition to the most rigorous and up-to-date training, access to a Professional Master's Degree issued by TECH Technological University.





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

This **Professional Master's Degree in Advanced Emergency Nursing** contains the most complete and up-to-date scientific program on the market.

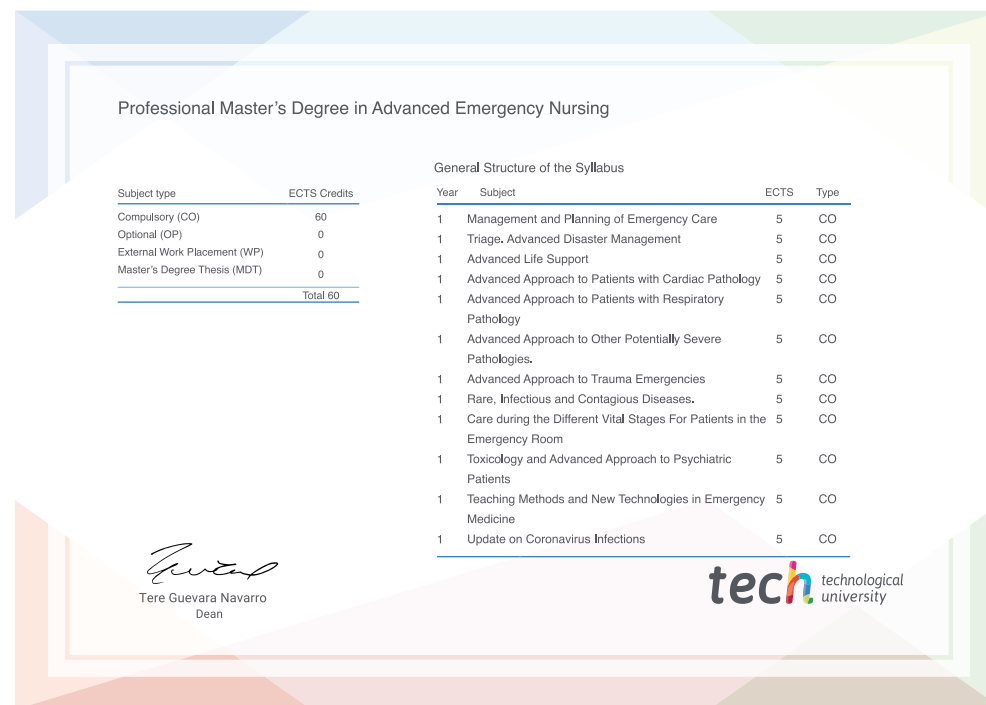
After the student has passed the evaluations, they will receive their corresponding **Professional Master's Degree** issued **TECH - Technological University** by tracked delivery.

This degree contributes to the academic development of the professional and adds a high-value university syllabus to their training. It is 100% valid in all competitive examinations, labour exchanges and professional career evaluation committees.

Title: **Professional Master's Degree in Advanced Emergency Nursing**

ECTS: **60**

Official N° of Hours: **1,500 hours.**



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

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education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
online training  
development language  
classroom



**Professional Master's  
Degree**  
Advanced Emergency  
Nursing

Course Modality: Online

Duration: 12 months.

Certificate: TECH Technological University

60 ECTS Credits

Teaching Hours: 1,500 hours.

# Professional Master's Degree Advanced Emergency Nursing

