





## Postgraduate Diploma

Advanced Life Support in Intensive Care Nursing

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/nursing/postgraduate-diploma/postgraduate-diploma-advanced-life-support-intensive-care-nursing

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06 Certificate





## tech 06 | Introduction

The transformation of Intensive Care Units thanks to new technologies is notorious. In this sense, the nurse is surrounded by much more precise equipment for patient monitoring, with smaller, wireless and portable devices. At the same time, there have been advances in the procedures and techniques used to care for the critically ill person.

Faced with this reality, the healthcare professional requires continuous updating of his or her competencies and care skills, allowing him or her to integrate the most significant advances in his or her praxis. This Postgraduate Diploma in Advanced Life Support in Intensive Care Nursing is born with this intention.

It is a program that will lead the graduate to deepen in the protocols used in the care of the critical patient or with Cardiovascular Disorders. In this sense, from a theoretical-practical perspective, they will delve into the most effective techniques for performing cardiac stimulation with pacemakers, cardiopulmonary resuscitation and mastering the post-resuscitation period.

All this, accompanied by multimedia didactic resources, specialized readings and clinical case studies that will lead you to integrate into your practice, the most effective methodology and strategies for patient management in the ICU.

Undoubtedly, a unique opportunity to keep abreast of advances in this field through a 100% online, flexible and convenient university degree. The graduate only needs a digital device with internet connection to visualize, the content hosted on the virtual platform at any time of day. An ideal opportunity to study an avant-garde degree, compatible with daily responsibilities.

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

- The development of case studies presented by experts in Intensive Care Nursing and Intensive Care Physicians
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection





Delve your knowledge on invasive monitoring II: GC, PAP and other parameters through the best didactic material"

The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its 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 an immersive education programmed to learn in real situations.

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

Thanks to the Relearning method you will reduce study hours and consolidate key concepts in a much easier way.

You will learn in depth the advances for the interpretation of data values with invasive and non-invasive monitoring to anticipate future problems.







## tech 10 | Objectives



## **General Objectives**

- Synthesizing data to inform the assessment of the critically ill patient
- Collecting data to inform the assessment of the critically ill patient
- Use data to inform the assessment of the critically ill patient
- Plan care collaboratively and in a patient-centered manner
- Incorporate the latest evidence-based practice in critical care nursing
- Act effectively in pressurized and demanding situations
- Contextualize each action to the situation at hand





### **Specific Objectives**

#### Module 1. Advanced nursing care in the critically ill patient

- · Modify priorities and adapt the work plan in light of the changes
- Encourage compliance with unit and hospital guidelines, as well as national regulations, regarding medication administration in the critical care setting
- · Ensuring that medication errors are avoided
- Appropriately prioritize and provide patients with the necessary care in the Intensive Care Unit setting

## Module 2. Hemodynamic monitoring and support. Advanced care of the patient with hemodynamic problems

- Provide nursing care in Cardiovascular Disorders
- Manage fluids and vasoactive drugs to aid circulation, including vasopressor and inotropic drugs
- Initiate and perform appropriate techniques to measure cardiac output and derived hemodynamic variables
- Perform cardiac pacing with pacemakers
- Perform cardiopulmonary resuscitation
- Perform in the post resuscitation period
- Perform defibrillation and cardioversion according to resuscitation protocols
- Cannulate an arterial catheter and remove specimens

## Module 3. Monitoring and support in the elimination and water-electrolyte balance of the patient. Advanced care of the patient with elimination problems

- Provide nursing care in renal disorders and intoxications
- Correctly recognize electrolyte and acid-base balance disturbances
- Manage continuous renal replacement therapy
- Initiate and carry out monitoring in everything related to and involving variables related to the patient's elimination status



Case studies will put you in a variety of clinical situations that will allow you to integrate advances in the care of patients with Cardiovascular Disorders"





## tech 14 | Course Management

#### Management



#### Ms. Fernández Lebrusán, Laura

- Nurse in the Medical ICU at the Puerta De Hierro Hospital
- ICU Nurse at the Hospital Universitario del Sureste
- Surgical ICU Nurse at Hospital General Universitario Gregorio Marañór
- ICU Nurse at the Hospital Quirón Salud
- Associate Teacher at the University Francisco of Vitoria
- Graduate in Nursing at the Francisco de Vitoria University
- Professional Master's Degree in Critical Care and Intrahospital Emergency Care
- HEMS Specialist (Helicopter Emergency Medical Services), University of Alicante
- Advanced Clinical Simulation Instructor by Francisco de Vitoria University

#### **Professors**

#### Ms. Alonso Hernández, Vanesa

- Nurse in UCI Henares University Hospital
- Nurse in Clinical Analysis Laboratory at Labipah, S.A.
- Nurse in the Intensive Care Unit at the Puerta de Asturias University Hospital
- National Cardiopulmonary Resuscitation Plan of the Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units
- Postgraduate Diploma from Nursing in Outpatient
- Postgraduate Certificate Nurse from the University of Alcalá, Spain

#### Ms. López Álvarez, Ana María

- Nurse in the Intensive Care Unit of La Paz University Hospital
- Nurse in the 3rd Resuscitation Unit of General Surgery, Maxillofacial, Neurosurgery, Urological H. La Paz
- Nurse in the Intensive Care Unit, H. Puerta de Hierro H. La Paz
- Nurse in the General Surgery Unit H. La Paz Hospital
- Instructor of ICU Simulation in UFV
- Postgraduate Certificate in Nursing at the University School of Nursing Puerta de Hierro (UAM)

#### Ms. Juncos Gonzalo, Mónica

- Head of the Surgical ICU Nursing Unit at the Hospital General Universitario Gregorio Marañón, Madrid
- ICU Nurse at the Hospital General Universitario Gregorio Marañón, Madrid, Spain
- ICU Nurse at the Southeast Hospital
- Critical Care Nurse Pool at the Hospital General Universitario Gregorio Marañon
- Researcher in the project "Assessment of analgesia, sedation, restraints and delirium in patients admitted to adult Intensive Care Units in Spain"
- Researcher in the project "Adaptation and validation of frailty scales in critically ill
  patients admitted to Critical Care Units in Spain"
- Degree in Nursing from the Complutense University of Madrid
- Professional Master's Degree in Human Resources Management from the European University of Madrid
- Postgraduate Diploma in Nursing Management and Leadership by the Catholic University of Avila
- Postgraduate Diploma in Processes and Interventions by the Catholic University of Avila
- Member of the Spanish Society of Intensive Care Nursing and Coronary Units (SEEIUC), Spanish Wound Society (SEHER), Spanish Society of Anesthesia, Resuscitation and Pain Therapy Nursing (A-SEEDAR)

## tech 16 | Course Management

#### Dr. Villén Villegas, Tomás

- Assistant to Medical Coordination in Emergency Hospital Nurse Isabel Zendal
- Adjunct Emergency Specialist at Hospital Universitario La Paz
- Assistant Emergency Specialist at Ramón y Cajal University Hospital
- Adjunct Emergency Specialist at Hospital Infanta Sofia
- Postdoctoral Fellow at Harvard University
- Vice-president of the World Interactive Network Focuse on Critical Ultrasound (WINFOCUS) Ibérica
- Member of the Working Group on Ultrasound of the European Society of Emergency Medicine (EuSEM), Society of Ultrasound in Medical Education (SUSME), Spanish Society of Emergency Medicine (SEMES)

#### Dr. González González, Elena

- Assistant Physician of the Intensive Care Department, Torrejón University Hospital
- Assistant Physician of the Intensive Care Department, Getafe University Hospital
- Transplant Coordinator of the Hospital Universitario de Torrejón
- Pulmonary and Critical Care Division in the Northwestern Memorial Hospital in Chicago
- Clinical Simulation Instructor
- PNRCP SVA SVI Instructor
- Director and teacher of Advanced Life Support courses
- Degree in Medicine from the Autonomous University Madrid
- President of the CPR Committee of the Hospital Universitario de Torrejon

#### Ms. Sánchez Hernández, Mónica

- Nurse in the Post-Surgical Critical Care Unit (UCPQ) at the "Puerta de Hierro" Majadahonda University Hospital
- Responsible for Patient Safety and referral nurse in Chronic Wound Care
- Nurse in Primary Care substitutes in several Area V Centers
- Collaborating Nurse in the Center for Vascular Ulcer Cures (CCUV)
- Clinical teaching collaborator at the UAM
- Postgraduate Certificate in Nursing from the Escuela Universitaria de Enfermería
   Puerta de Hierro, a center attached to the Universidad Autónoma de Madrid
- Member of the Commission of Dermal Ulcers, Commission of Pressure Ulcers and Chronic Wounds

#### Mr. Martín De Castro, Javier

- Coronary Intensive Care Unit Nurse at the Hospital Universitario de la Hospital Universitario 12 de Octubre
- Nurse in the Post-Surgical Intensive Care Unit at the Puerta de Hierro Hospital
- Nurse in the Intensive Care Unit at the Ruber Juan Bravo Hospital Graduate in Nursing
- Professional Master's Degree in Critical Illness and Emergencies at Universitat de Barcelona
- Postgraduate Diploma in Nursing Processes and Interventions for Pediatric Patients in Life-Threatening Situations
- Expert in Simulation Instructor: Improving teamwork through TeamSTEPPS®

#### Ms. Gil Hernández, Cristina

- Nurse at the Ramón y Cajal University Hospital
- Nurse in Primary Care Management
- Nurse at San Francisco de Asis University Hospital
- Nurse at the Móstoles University Hospital
- Researcher in the BPSO Working Group at Hospital Sureste
- Graduate in Nursing from the Complutense University of Madrid
- Expert in Out-of-hospital Emergencies and Emergencies, Universidad Complutense de Madrid Expert in School Health, Universidad Católica de Ávila

#### Dr. Domínguez Pérez, Laura

- Attending physician at the Acute Cardiac Care Unit and Clinical Cardiology Unit at Hospital Universitario 12 de Octubre
- Research stay at the Montreal Cardiology Institute
- Specialist in Cardiology at the Carlos III Hospital
- Doctorate in Medical Sciences from the Complutense University of Madrid
- Professional Master's Degree in Advances in Cardiology
- Professional Master's Degree in Acute Cardiac Care
- Expert in Diabetes Mellitus 2 and Cardiovascular Diseases
- Expert in Atrial Fibrillation
- Member of the Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units

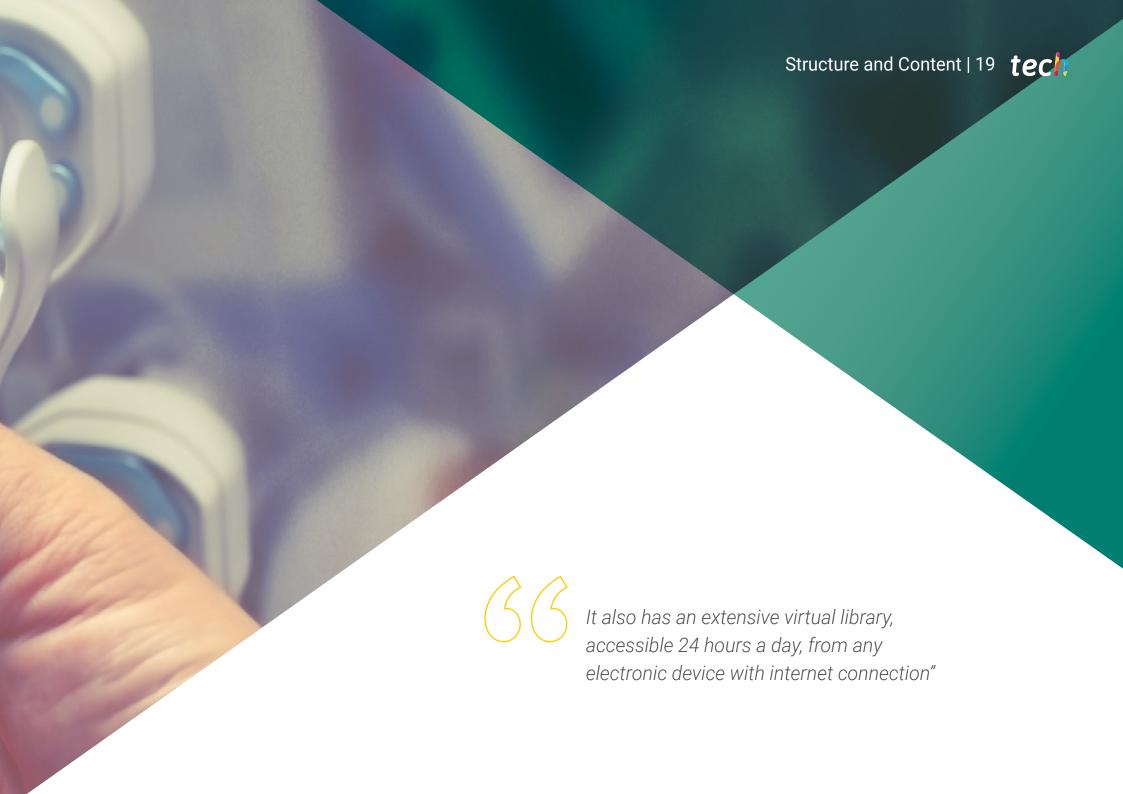
#### Mr. Domínguez García, Sergio

- Nurse in the Dental ICU of the Hospital Universitario Puerta de Hierro Majadahonda
- Nurse in Intensive Care Unit of Infanta Elena University Hospital
- Nurse in Acute Geriatrics Unit of the Hospital General Universitario Gregorio Marañon
- Nurse in Intensive Care Unit of Jiménez Díaz Foundation Hospital
- Professional Master's Degree in Respiratory and Mechanical Ventilation by the University of Valencia
- Master's Degree in Critical Care at Universidad Rey Juan Carlos
- Collaborating member of CPR in SEEIUC



Take the step to get up to date on the latest developments in Advanced Life Support. in Intensive Care Nursing"





### tech 20 | Structure and Content

#### Module 1. Advanced nursing care in the critically ill patient

- 1.1. Nursing care and planning in the day-to-day care of the critically ill patient
  - 1.1.1. Skin cleansing and hydration
  - 1.1.2. Early mobilization
  - 1.1.3. Considerations in the immobilized patient
- 1.2. Mobilization of the critically ill patient
  - 1.2.1. Preliminary Considerations
  - 1.2.2. Lateral decubitus Left lateral decubitus position
  - 1.2.3. Supine position
  - 1.2.4. Prone Position
- 1.3. Isolation measures
  - 1.3.1. Isolation criteria
  - 1.3.2. Contact insulation
  - 1.3.3. Isolation by droplets
  - 1.3.4. Airborne insulation
  - 135 Reverse insulation
- 1.4. Wounds and PUs
  - 1.4.1. Pressure ulcers: prevention and devices
  - 1.4.2. Surgical wounds
  - 1.4.3. Moisture wounds
- 1.5. Collaboration with other professionals. Transversal skills
  - 1.5.1. Intraprofessional and interprofessional communication
  - 1.5.2. Leadership
  - 1.5.3. Interprofessional support and support
- 1.6. Post-ICU syndrome
  - 1.6.1. Physical sequelae
  - 1.6.2. Emotional and psychological sequelae
  - 1.6.3. Risk screening and prevention

- .7. Therapeutic Effort Limitation
  - 1.7.1. Criteria and considerations
  - 1.7.2. How to proceed
  - 1.7.3. Spiritual considerations
- 1.8. Ultrasound: assessment and nursing intervention
  - 1.8.1. Assessment and prevention
  - 1.8.2. Assessment and prevention
  - 1.8.3. A must in the cannulation of vascular accesses
- .9. Vascular Access
  - 1.9.1. ICU catheters
  - 1.9.2. Nursing Care
  - 1.9.3. Drug management and compatibility
- 1.10. Intrahospital transfers
  - 1.10.1. Before transfer
  - 1.10.2. During the transfer
  - 1.10.3. After the transfer

## **Module 2.** Hemodynamic monitoring and support. Advanced care of the patient with hemodynamic problems

- 2.1. EKG monitoring and telemetry + noninvasive HD monitoring
  - 2.1.1. Electrocardiography
  - 2.1.2. Arrhythmias
  - 2.1.3. Warning signs and alarms
- 2.2. Temperature Monitoring
  - 2.2.1. Temperature measurement: central and peripheral thermometer, SV
  - 2.2.2. Methods to decrease it: Artic Sun and Coolgard, IV
  - 2.2.3. Methods to increase it
- 2.3. Invasive monitoring I
  - 2.3.1. Arterial catheter
  - 2.3.2. Central Venous Pressure (CVP)
  - 2.3.3. Nursing care

### Structure and Content | 21 tech

- 2.4. Invasive monitoring II: CG, PAP and other parameters
  - 2.4.1. Swan Ganz
  - 2.4.2. PiCCO System
  - 2.4.3. VolumeView
  - 2.4.4. LiDCO
  - 2.4.5. Monitoring
- 2.5. Percutaneous Circulatory Assistances: Counterpulsation Balloon (BCiA), Impella CP + 2.5. ECMO VA
  - 2.5.1. Indications
  - 2.5.2. Operation
  - 2.5.3. Assessment and nursing care
- 2.6. Non-percutaneous circulatory assists: HeartMate, Impella 5.0, Levitronix, Berlin-Heart Excor, ECMO VA
  - 2.6.1. Indications
  - 2.6.2. Operation
  - 2.6.3. Assessment and nursing care
- 2.7. Pacemaker
  - 2.7.1. Transcutaneous or external
  - 2.7.2. Transvenous
  - 2.7.3. Epicardial
- 2.8. Advanced Life Support (ALS) in the critically ill patient
  - 2.8.1. Action Protocol
  - 2.8.2. Changes and differences with respect to other units
  - 2.8.3. Post-resuscitation care
- 2.9. The Heart Attack Code. Reception and in-hospital follow-up
  - 2.9.1. Reception of the patient
  - 2.9.2. Primary assessment and intervention
  - 2.9.3. Catheterization
  - 2.9.4. Follow-up and nursing care

- 2.10. Administration of frequently used drugs
  - 2.10.1. Vasoactive drugs: types
  - 2.10.2. Pharmacodynamics and pharmacokinetics
  - 2.10.3. Special considerations in administration and withdrawal

## **Module 3.** Monitoring and support in the elimination and water-electrolyte balance of the patient. Advanced care of the patient with elimination problems

- 3.1. Water Balance
  - 3.1.1. Imperceptible losses
  - 3.1.2. Latest recommendations
  - 3.1.3. Special considerations
- 3.2. lons and associated problems
  - 3.2.1. Ion imbalance
  - 3.2.2. pH change
  - 3.2.3. Associated Complications
- 3.3. Management of the most frequent intoxications
  - 3.3.1. Drug Intoxications
  - 3.3.2. Metal intoxications
  - 3.3.3. Drug Poisoning
- 3.4. Intra-abdominal pressure (IAP)
  - 3.4.1. Measuring devices
  - 3.4.2. Interpretation and assessment
  - 3.4.3. Indications
- 3.5. Vascular accesses for renal replacement therapy and its nursing care
  - 3.5.1. Catheter location and types
  - 3.5.2. Nursing Care
  - 3.5.3. Resolution of associated problems. Nursing assessment

## tech 22 | Structure and Content

- 3.6. Extrarenal depuration therapy
  - 3.6.1. Osmosis. Convection and diffusion
  - 3.6.2. Most frequent types of therapy
  - 3.6.3. Plasmapheresis
- 3.7. Ostomies Types and nursing care
  - 3.7.1. Nursing care
  - 3.7.2. Colostomy and ileostomy
  - 3.7.3. Ureterostomy and nephrostomy
- 3.8. Surgical drainage
  - 3.8.1. Nursing care
  - 3.8.2. Types
  - 3.8.3. Special considerations
- 3.9. Negative pressure system
  - 3.9.1. Operation and indications
  - 3.9.2. Types
  - 3.9.3. Nursing care
- 3.10. Extracorporeal liver support
  - 3.10.1. Indications and Contraindications
  - 3.10.2. Types and special considerations
  - 3.10.3. Nursing care and assessment





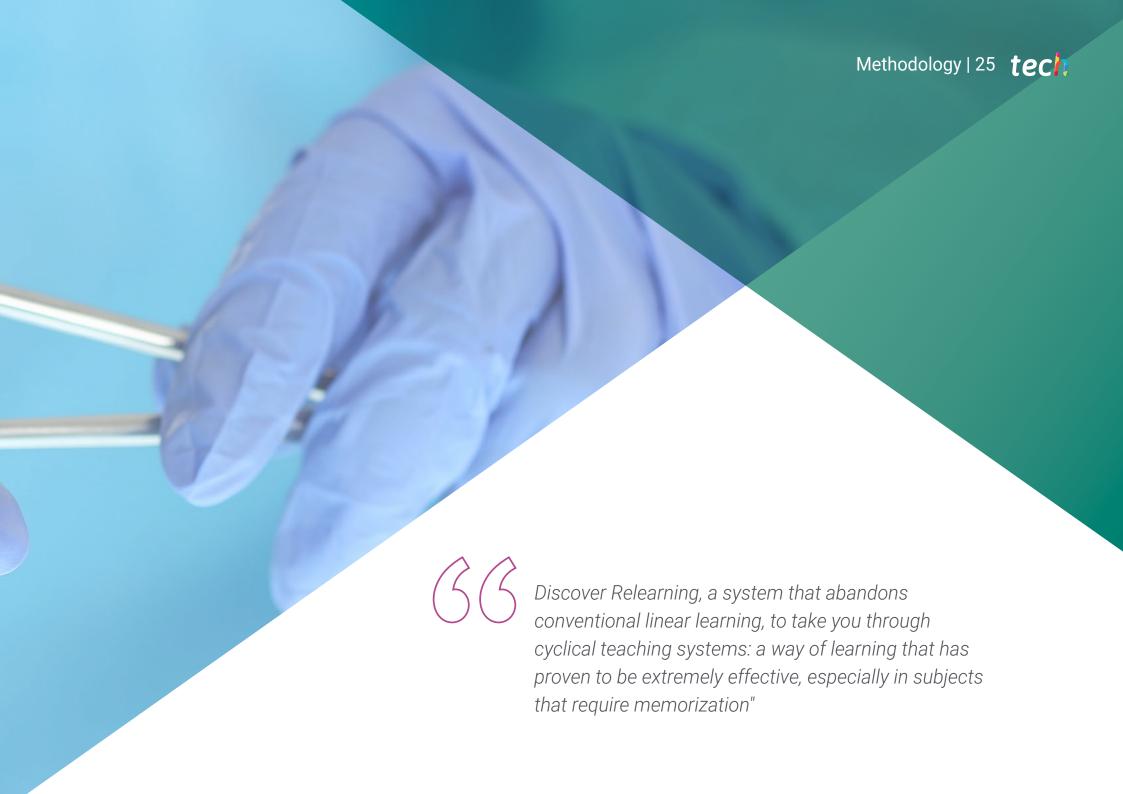


With this university degree you will be up to date on the latest recommendations to address the care of patients with elimination problems in the ICU"



This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.** 

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



## tech 26 | Methodology

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

In a given situation, what should a professional do? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Nurses learn better, faster, and more sustainably over time.

With TECH, nurses can experience a learning methodology that is shaking the foundations of traditional universities around the world.



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, in an attempt to recreate the real conditions in professional nursing practice.



Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method"

#### The effectiveness of the method is justified by four fundamental achievements:

- Nurses who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
- 2. The learning process has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
- 3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
- 4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.





#### Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.

The nurse will learn through real cases and by solving complex situations in simulated learning environments.

These simulations are developed using state-of-the-art software to facilitate immersive learning.



### Methodology | 29 tech

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

With this methodology we have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical workload. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.

This program offers the best educational material, prepared with professionals in mind:



#### **Study Material**

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is really specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



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

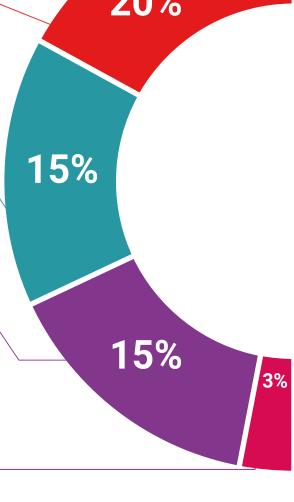
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch them as many times as you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



#### **Interactive Summaries**

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

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





#### **Additional Reading**

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.



Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

#### **Testing & Retesting**



We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

#### Classes



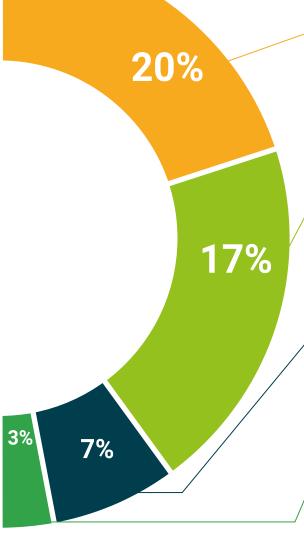
There is scientific evidence suggesting that observing third-party experts can be useful.

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.







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This **Postgraduate Diploma in Advanced Life Support in Intensive Care Nursing** contains the most complete and up-to-date scientific program on the market.

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

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

Title: Postgraduate Diploma in Advanced Life Support in Intensive Care Nursing Official N° of Hours: 450 h.



<sup>\*</sup>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.

health confidence people
health information tutors
education information teaching
guarantee accreditation teaching
institutions technology learning



## Postgraduate Diploma Advanced Life Support in Intensive Care Nursing

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Diploma

Advanced Life Support in Intensive Care Nursing

