Advanced Master's Degree
Intensive Care Unit Nursing

Accreditation/Membership

National League for Nursing

tech global university

tech global university

Advanced Master's Degree
Intensive Care Unit Nursing

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Global University**
- Accreditation: **120 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/nursing/advanced-master-degree/advanced-master-degree-intensive-care-unit-nursing**

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01

Introduction to the Program

Care in the Intensive Care Unit (ICU) represents one of the greatest challenges within the healthcare field, as it requires rapid, precise, and highly specialized intervention. According to the World Health Organization (WHO), the continuous improvement of nursing staff competencies is a determining factor in reducing morbidity and mortality rates in critical care units. In response to this reality, TECH has designed this postgraduate program to address the urgent need for professionals trained with updated scientific knowledge, advanced clinical skills, and leadership capacity. Through a 100% online methodology, participants will be prepared to effectively meet the complex challenges of critical care settings.

A comprehensive and 100% online program, exclusive to TECH, with an international perspective backed by our membership in the National League for Nursing"

The Intensive Care Unit (ICU) is defined by its high complexity, requiring nursing professionals to provide interventions that are not only rapid and precise, but also deeply human. In these critical environments, where every second matters, rigorous and updated clinical knowledge is essential, as well as interpersonal skills that promote comprehensive care for critically ill patients. For this reason, professionals working in ICUs must be prepared to face diverse clinical scenarios and make evidence-based decisions that ensure the safety and stability of critical patients.

In this context, TECH has developed the Advanced Master's Degree in Intensive Care Unit Nursing, designed to meet today's healthcare demands. Throughout the academic journey, participants will study essential topics such as hemodynamic monitoring, ventilatory support, care for polytrauma patients, and the management of cardiovascular emergencies. The program also includes modules on bioethics, critical pharmacology, and emotional support for patients and their families, providing a holistic perspective of nursing practice in the ICU.

Delivered in a 100% online format, the program enables professionals to balance their learning with work and personal responsibilities. Additionally, it employs the innovative Relearning methodology, based on the intelligent reiteration of key content, ensuring deeper and more lasting knowledge acquisition and the immediate application of competencies in clinical practice. Finally, TECH offers access to exclusive Masterclasses led by an International Guest Director, providing a truly global learning experience without leaving home.

As a member of the **National League for Nursing (NLN)**, TECH offers students access to assessment tools, digital libraries, webinars, and conferences focused on nursing educational excellence. This membership promotes faculty development, engagement with leading experts in the field, and the opportunity to join high-impact academic and clinical networks.

This **Advanced Master's Degree in Intensive Care Unit Nursing** contains the most complete and up-to-date university program on the market. Its most notable features are:

- The development of practical case studies presented by experts in Intensive Care Unit Nursing
- 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 the self-assessment process can be carried out to improve learning
- Special emphasis on innovative methodologies in Intensive Care Unit Nursing
- 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

Exclusive Masterclasses delivered by an international figure will provide you with fresh perspectives, cutting-edge methodologies, and globally relevant knowledge"

Transform your career and elevate your skills to the highest level with a university program that combines advanced theory and clinical practice"

Gain access to elite-level specialization, supported by an international faculty and an innovative, effective learning methodology.

Turn your vocation into a specialization that makes a difference! Benefit from the most effective 100% online learning methodology.

The faculty includes professionals specialized in Intensive Care Unit Nursing, who bring their extensive experience to this program, along with distinguished experts from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive educational experience designed to prepare students for real-life situations.

This program is designed around Problem-Based Learning, whereby the student must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

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Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs, available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it has a huge faculty of more than 6,000 professors of the highest international prestige.

Study at the largest online university in the world and ensure your professional success. The future begins at TECH”

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.

Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.

03

Syllabus

This syllabus will offer a comprehensive and advanced academic opportunity, encompassing both the technical and emotional aspects of intensive care. As such, the program will cover essential areas such as the management of advanced medical technologies. In addition, it will provide in-depth training in effective communication with families, ethical decision-making, and the development of key emotional skills to cope with stress and professional burnout. In this way, professionals will be efficiently prepared to collaborate with other specialists, adapting quickly to new technologies and medical protocols.

You will become an expert in intensive care, capable of making rapid and precise decisions under pressure, saving lives with every action"

Module 1. Organization and Management of an Intensive Care Unit

1.1. Historical Review
1.2. Professional Secrecy
1.3. Features of the Critical Care Unit: ICU Equipment and Apparatus
1.4. Intensive Care Nursing
1.5. Role of the Critical Care Nurse: Burnout Syndrome
1.6. Intensive Care Unit Nursing Management
1.7. Security Culture
1.8. Humanization in the Intensive Care Unit

Module 2. Assessment and Monitoring of Critically Ill Patients

2.1. Basic Aspects of Monitoring a Critically Ill Patient
2.2. Cardiac and Respiratory Activity
2.3. Hemodynamic Status
2.4. Neurological Status
2.5. Delirium in Intensive Care Units
2.6. Monitoring of Sedoanalgesia in Critical Care
2.7. Analytical Controls in ICU
2.8. Intensive Care Nursing Records
2.9. Peripheral Arterial System Examination
2.10. Preload Monitoring. Ultrasound

Module 3. Life Support.

3.1. General Aspects
3.2. Basic Electrocardiography and Arrhythmias
3.3. Basic Life Support and AED in Adults
3.4. Peripartum Arrhythmia
3.5. Airway Management
3.6. Advanced Life Support in Adults
3.7. Routes of Administrating Medication
3.8. Resuscitation in Special Cases
3.9. Basic Life Support and AED in Children.
3.10. Recognition and Management of Critically Ill Children
3.11. Advanced Airway Management in Pediatrics
3.12. Basics of Mechanical Ventilation in Pediatrics
3.13. Infusion Routes and Drugs in Pediatric CPR
3.14. Pediatric VAS Algorithms and Arrhythmia Treatment
3.15. Neonatal Resuscitation
3.16. Post-resuscitation Stabilization and Neonatal Transport

Module 4. Critical Care for Patients with Cardiovascular Disorders

4.1. Anatomy of the Cardiovascular System
4.2. Physiology of the Cardiovascular System
4.3. Heart Failure and Acute Pulmonary Edema
4.4. Ischemic Heart Disease
4.5. Cardiac Arrhythmias
4.6. Cardiogenic Shock
4.7. Valvulopathies
4.8. Pericarditis
4.9. Aneurysm and Aortic Dissection
4.10. Hypertensive Emergencies
4.11. ECG and Monitoring.
4.12. Electrical Therapies: Cardioversion and Defibrillation
4.13. Fibrinolysis
4.14. Percutaneous Coronary Intervention
4.15. Aortic Counterpulsation Balloon Pump
4.16. Pacemaker

Module 5. Advanced Practice in Cardiology

5.1. Advanced ECG for Nursing
5.2. Pacemaker and Holter
5.3. Patient Management in the Coronary Care Unit
5.4. Role of Nursing Professionals in Hemodynamics
5.5. Cardiac Surgery
5.6. Nursing Interventions in Cardiological Diagnostic Tests
  5.6.1. Echocardiogram
  5.6.2. Ergometry
  5.6.3. Tilting Bed
  5.6.4. Ankle-Brachial Index (ABI) Doppler
5.7. Advanced Drug Management in Cardiology
5.8. Cardiology Nursing Techniques and Procedures
5.9. Nursing in Cardiopathy Patient Rehabilitation
5.10. Continuity of Care in Patients with Cardiopathies

Module 6. Clinical Cardiac Ultrasound

6.1. Cardiac Anatomy
  6.1.1. Basic Three-Dimensional Anatomy
  6.1.2. Basic Cardiac Physiology
6.2. Technical Requirements
  6.2.1. Feeding Tubes
  6.2.2. Characteristics of the Equipment used in a Cardiac Ultrasound
6.3. Pericardial Windows and Cardiac Ultrasound
  6.3.1. Windows and Planes Applied in Emergencies and Intensive Care Situations
  6.3.2. Basic Doppler (Color, Pulsating, Continuous and Tissue Doppler)
6.4. Structural Alterations
  6.4.1. Basic Measures in Cardiac Ultrasound
  6.4.2. Thrombi
  6.4.3. Suspected Endocarditis
  6.4.4. Valvulopathies
  6.4.5. Pericardium
  6.4.6. How to Report an Ultrasound in Emergencies and Critical Care

6.5. Structural Alterations I
  6.5.1. Left Ventricle
  6.5.2. Right Ventricle
6.6. Hemodynamic Ultrasound
  6.6.1. Left Ventricular Hemodynamics
  6.6.2. Right Ventricular Hemodynamics
  6.6.3. Preload Dynamic Tests
6.7. Transesophageal Echocardiogram
  6.7.1. Technique
  6.7.2. Indications in Emergencies and Intensive Care Cases
  6.7.3. Ultrasound-Guided Study of Cardioembolism

Module 7. Critical Care in Patients with Respiratory Disorders

7.1. Anatomophysiologic and Physiologic Memory of the Cardiocirculatory System
7.2. Acute Respiratory Failure
7.3. Adult Respiratory Distress Syndrome
7.4. Pulmonary Embolism
7.5. COPD Flare-up
7.6. Asthmatic Status
7.7. Pneumonia and Bronchopneumonia
7.8. Neuromuscular Alterations that Affect Respiration
7.9. Procedures: Oxygen Therapy
7.10. Procedures: Airway Access
7.11. Procedures: Aspiration of Tracheobronchial Secretions
7.12. Procedures: Thoracocentesis and Chest Drains
7.13. Extracorporeal Membrane Oxygenation System (ECMO)
7.14. Concept of Mechanical Ventilation. Respirators and Parameters
7.15. Mechanical Ventilation Methods
7.16. Ventilator Alarms
7.17. Nursing Care of Mechanically Ventilated Patients
7.18. Removing MV
7.19. Non-Invasive Mechanical Ventilation
7.20. Mechanical Ventilation in Tracheostomized Patients

Module 8. Care for Patients with Neurological Disorders

8.1. Anatomophysiological Review of the Nervous System
8.2. Cerebrovascular Disease. Code Stroke
8.3. Intracranial Hypertension
8.4. Delirium
8.5. Guillain - Barré Syndrome
8.6. Seizures and Status Convulsus
8.7. Meningitis and Lumbar Puncture Practice
8.8. Comatose Patient
8.9. Pain and Sedoanalgesia
8.10. Neurological Assessment in ICU: Most Frequently Used Diagnostic Tests

Module 9. Digestive and Renal Pathology in the ICU and Other Pathologies

9.1. Digestive Hemorrhage
9.2. Intestinal Obstruction
9.3. Inflammatory Bowel Disease
9.4. Mesenteric Ischemia
9.5. Acute Abdomen
9.6. Fulminant Hepatic Failure
9.7. Albumin-Based Liver Replacement System
9.8. Acute Pancreatitis
9.9. Intestinal Ostomy Patient: Colostomy
9.10. Intestinal Ostomy Patient: Ileostomy
9.11. Disseminated Intravascular Coagulation
9.12. Multiorgan Failure
9.13. Endocrinometabolic Alterations
9.14. Acute Renal Failure in the ICU
9.15. Urostomy Patient
9.16. Critical Care in Poisoning
9.17. Critical Care in Digestive Pathologies
9.18. Nosocomial Infections in the ICU
9.19. Sepsis and Septic Shock
9.20. Nursing Care in the Septic Patient

Module 10. Critical Care for Severe Trauma Patients

10.1. The Critically Ill Burns Patient
10.2. The Polytraumatized Patient
10.3. Initial Assessment of the Polytraumatized Patient
10.4. TBI and Spinal Trauma. Spinal cord Injury
10.5. Thoracic and Abdominal Trauma. Hypovolemic Shock
10.6. Trauma to the Limbs
10.7. Trauma in Special Situations I
10.8. Trauma in Special Situations II

Module 11. Pharmacology in Intensive Care

11.1. Basic Concepts in Pharmacology
11.2. Safety in Drug Administration
11.3. Most Frequently Used Drugs: Analgesia, Sedation and Muscle Relaxants
11.4. Most Frequently Used Drugs: Antiarrhythmics, Vasodilators and Inotropes
11.5. Most Frequently Used Drugs: Respiratory System and Antibiotics
11.6. Drug Administration Precautions: Oral and Enteral, Parenteral, and Transfusion
11.7. Drug Administration Precautions: Cytostatics, Epidural, PCA and Insulin Pumps
11.8. Dosage Formulas and Calculation
11.9. Enteral and Parenteral Nutrition
11.10. Pharmacology in Pediatrics

Module 12. Maternal and Child Health

12.1. Obstetric Ultrasound
12.2. Cardiotocographic Recording
12.3. Out-of-Hospital Birth
12.4. Diagnostic Techniques in Gynecological Cancers
12.5. Application of Contraceptive Treatments
12.6. Neonatal Assessment and Resuscitation Maneuvers in the Delivery Room
12.7. Neonatal Extracorporeal Membrane Oxygenation (ECMO)
12.8. Neonatal Mechanical Ventilation
12.9. Pediatric Intensive Care
12.10. Catheter Insertion in Pediatrics

Module 13. Pediatric Clinical Ultrasound

13.1. Technical Requirements
- 13.1.1. Ultrasound at the Patients Bedside
- 13.1.2. Physical Space
- 13.1.3. Basic Equipment
- 13.1.4. Equipment for Interventionalist Ultrasounds
- 13.1.5. Ultrasound Scanners and Probes

13.2. Examination Technique
- 13.2.1. Pediatric Patient Preparation
- 13.2.2. Tests and Probes
- 13.2.3. Ultrasound Section Planes
- 13.2.4. Examination System
- 13.2.5. Ultrasound-Guided Procedures
- 13.2.6. Images and Documentation
- 13.2.7. Test Report

13.3. Pediatric Sonoanatomy and Sonophysiology
- 13.3.1. Normal Anatomy
- 13.3.2. Sonoanatomy
- 13.3.3. Sonophysiology of a Child in the Different Stages of Development
- 13.3.4. Variants of Normality
- 13.3.5. Dynamic Ultrasound

13.4. Ultrasound of the Major Pediatric Syndromes
- 13.4.1. Emergency Thorax Ultrasound
- 13.4.2. Acute Abdomen
- 13.4.3. Acute Scrotum

13.5. Ultrasound-Guided Procedures in Pediatrics
- 13.5.1. Vascular Access
- 13.5.2. Extraction of Superficial Foreign Bodies
- 13.5.3. Pleural Effusion

13.6. Introduction to Neonatal Clinical Ultrasound
- 13.6.1. Emergency Transfontanellar Ultrasound
- 13.6.2. Most Common Examination Indications in Emergencies
- 13.6.3. Most Common Pathologies in Emergencies

Module 14. Critical Care for Paediatric Patients

14.1. Most Common Disorders in Newborns
14.2. Polytraumatized Children
14.3. Needs Assessment and Pediatric Rating Scales
14.4. Pediatric Assessment Triangle
14.5. Airway and Ventilatory Management for Critically Ill Pediatric Patients
14.6. Nursing Techniques for Critically Ill Pediatric Patients
14.7. Pediatric Postoperative Care.
14.8. Pediatric Pain
14.9. Care for Premature Infants
14.10. End of Life Care

Module 15. Hospital Transport

15.1. Intrahospital Transfer of the Critically Ill Patient
15.2. Out-of-hospital Transfer and ISOBAR
15.3. Intrahospital Neonatal Transport
15.4. Driving and Road Safety
15.5. Immobilization and Transfer

Module 16. Anesthesia and Surgery

16.1. Malignant Hyperthermia
16.2. Types of Anesthesia
16.3. Critical Postoperative Patient
16.4. Cardiac Surgery
16.5. Critical Care in Transplant Patients
16.6. Nursing Care in Patients under Anesthesia. Crash Cart
16.7. Postoperative Complications
16.8. Interventions that May Prevent Perioperative Complications
16.9. Patient Admission to the Post-Anesthesia Recovery Unit
16.10. Possible Complications to the Post-Anesthesia Recovery Unit

Module 17. Research Methodology in Intensive Care Nursing

17.1. Retrieval of High-Quality Specialized Information in Health Sciences
- 17.1.1. Development of a Bibliographic Search
- 17.1.2. Knowledge of Different Information Sources: General Search Engines (Google Scholar, Scopus), Databases (PubMed, Embase, Cinahl) and Clearinghouse Clinical Practice Guidelines
- 17.1.3. Design of Complex Search Strategies
- 17.1.4. Refinement of Search Results
- 17.1.5. Creation of Bibliographic Alerts

17.2. Reference Management Software
- 17.2.1. Introduction to Reference Management Tools
- 17.2.2. Importing References into the Zotero Reference Manager
- 17.2.3. Extracting Metadata from PDFs
- 17.2.4. Using Tags or Metadata for Bibliographic Classification
- 17.2.5. Including References in the Text (Word). Vancouver Style
- 17.2.6. Social Web and Collaborative Work

17.3. Critical Reading in Outcomes Research
- 17.3.1. Introduction. Critical Reading
- 17.3.2. Some Basic Concepts in Epidemiology
- 17.3.3. Qualitative Research Designs
- 17.3.4. Quantitative Research Designs
- 17.3.5. Tools for Critical Appraisal

17.4. How to Develop a Research Protocol
- 17.4.1. Sections Comprising a Research Project Protocol
- 17.4.2. Writing Articles with a Scientific Structure
- 17.4.3. Writing a Case Report, Review, Qualitative Research Article, and a Thesis or Dissertation
- 17.4.4. Style in Scientific Communication

17.5. Master's Final Project: Academic Work Based on Bibliographic Review and Research
- 17.5.1. The Importance of the Master's Final Project
- 17.5.2. Proposal and Feasibility of the Master's Final Project
- 17.5.3. Recommendations for Developing the Master's Final Project
- 17.5.4. Development and Evaluation of the Master's Final Project
- 17.5.5. Presentation and Defense of the Master's Final Project

Module 18. Ultrasound Imaging

18.1. Physical Principles
- 18.1.1. Sound and Ultrasound
- 18.1.2. Nature of Ultrasound
- 18.1.3. Interaction of Ultrasound with Matter
- 18.1.4. Concept of Ultrasound Imaging
- 18.1.5. Ultrasound Safety

18.2. Ultrasound Sequence
- 18.2.1. Ultrasound Emission
- 18.2.2. Interaction with Tissues
- 18.2.3. Echo Formation
- 18.2.4. Echo Reception
- 18.2.5. Generation of the Ultrasound Image

18.3. Ultrasound Modes
- 18.3.1. A-Mode
- 18.3.2. M-Mode
- 18.3.3. B-Mode
- 18.3.4. Color Doppler
- 18.3.5. Angio-Doppler
- 18.3.6. Spectral Doppler
- 18.3.7. Combined Modes
- 18.3.8. Other Modalities and Techniques

18.4. Ultrasound Devices
- 18.4.1. Console-Based Ultrasound Systems
- 18.4.2. Portable Ultrasound Devices
- 18.4.3. Specialized Ultrasound Equipment
- 18.4.4. Transducers

18.5. Ultrasound Planes and Echonavigation
- 18.5.1. Sagittal Plane
- 18.5.2. Transverse plane
- 18.5.3. Coronal plane
- 18.5.4. Oblique planes
- 18.5.5. Ultrasound Orientation Marker
- 18.5.6. Transducer Movements

Module 19. Clinical Thoracic Ultrasound

19.1. Fundamentals of Thoracic Ultrasound and Anatomical Review
- 19.1.1. Study of the Normal Thorax
- 19.1.2. Pulmonary Ultrasound Semiology
- 19.1.3. Pleural Ultrasound Semiology

19.2. Technical Requirements. Examination Technique
- 19.2.1. Types of Probes Used
- 19.2.2. Ultrasound with Contrast in the Thorax

19.3. Ultrasound of the Thoracic Wall and the Mediastinum
- 19.3.1. Examination of Pulmonary Pathology
- 19.3.2. Examination of Pleural Pathology
- 19.3.3. Examination of Mediastinal and Thoracic Wall Pathology

19.4. Ultrasound of the Pleura
- 19.4.1. Pleural Effusion and Solid Pleural Pathology
- 19.4.2. Pneumothorax
- 19.4.3. Pleural Interventionism
- 19.4.4. Adenopathies and Mediastinal Masses
- 19.4.5. Adenopathies of the Thoracic Wall
- 19.4.6. Osteomuscular Pathology of the Thoracic Wall

19.5. Pulmonary Ultrasound
- 19.5.1. Pneumonia and Atelectasis
- 19.5.2. Pulmonary Neoplasms
- 19.5.3. Diffuse Pulmonary Pathology
- 19.5.4. Pulmonary Infarction

19.6. Diaphragmatic Ultrasound
- 19.6.1. Ultrasound Approach to the Diaphragmatic Pathology
- 19.6.2. Usefulness of Ultrasound in the Study of the Diaphragm

Module 20. Clinical Vascular Ultrasound

20.1. Anatomical Review
- 20.1.1. Venous Vascular Anatomy of the Upper Limbs
- 20.1.2. Arterial Vascular Anatomy of the Upper Limbs
- 20.1.3. Venous Vascular Anatomy of the Lower Limbs
- 20.1.4. Arterial Vascular Anatomy of the Lower Limbs

20.2. Technical Requirements
- 20.2.1. Ultrasound Devices and Probes
- 20.2.2. Curve Analysis
- 20.2.3. Color Imaging Media
- 20.2.4. Ultrasound Contrast Agents

20.3. Examination Technique
- 20.3.1. Positioning
- 20.3.2. Insonation. Examining Technique
- 20.3.3. Assessment of Normal Flow Curves and Velocities

20.4. Major Thoracoabdominal Vessels
- 20.4.1. Abdominal Venous Vascular Anatomy
- 20.4.2. Abdominal Arterial Vascular Anatomy
- 20.4.3. Abdomino-Pelvic Venous Pathology
- 20.4.4. Abdomino-Pelvic Arterial Pathology

20.5. Supra-Aortic Trunks
- 20.5.1. Venous Vascular Anatomy of the Supra-Aortic Trunks
- 20.5.2. Arterial Vascular Anatomy of the Supra-Aortic Trunks
- 20.5.3. Venous Pathology of the Supra-Aortic Trunks
- 20.5.4. Arterial Pathology of the Supra-Aortic Trunks

20.6. Peripheral Arterial and Venous Circulation
- 20.6.1. Venous Pathology of Lower and Upper Limbs
- 20.6.2. Arterial Pathology of Lower and Upper Limbs

Module 21. Clinical Cerebral Ultrasound

21.1. Cerebral Hemodynamics
- 21.1.1. Carotid Circulation
- 21.1.2. Vertebrobasilar Circulation
- 21.1.3. Cerebral Microcirculation

21.2. Ultrasound Modalities
- 21.2.1. Transcraneal Doppler
- 21.2.2. Cerebral Ultrasound
- 21.2.3. Special Tests (Vascular Reaction, HITS, etc.)

21.3. Ultrasound Windows and Examination Technique
- 21.3.1. Ultrasound Windows
- 21.3.2. Operator Positioning
- 21.3.3. Examination Sequence

21.4. Structural Alterations
- 21.4.1. Collections and Masses
- 21.4.2. Vascular Abnormalities
- 21.4.3. Hydrocephalus
- 21.4.4. Venous Pathology

21.5. Hemodynamic Alterations
- 21.5.1. Spectral Analysis
- 21.5.2. Hyperdynamic States
- 21.5.3. Hypodynamics States
- 21.5.4. Cerebral Asystole

21.6. Ocular Ultrasound
- 21.6.1. Pupil Size and Reactivity
- 21.6.2. Optic Nerve Sheath Diameter

21.7. Doppler Ultrasound in the Diagnosis of Brain Death
- 21.7.1. Clinical Diagnosis of Brain Death
- 21.7.2. Necessary conditions before transcranial Doppler (TCD) examination for the diagnosis of cerebral circulatory arrest
- 21.7.3. TCD Application Technique
- 21.7.4. Advantages of TCD
- 21.7.5. Limitations and Interpretation of TCD
- 21.7.6. TCD Ultrasound for the Diagnosis of Brain Death
- 21.7.7. TCD Ultrasound in the Diagnosis of Brain Death

Module 22. Clinical Abdominal Ultrasound

22.1. Anatomical Review
- 22.1.1. Abdominal Cavity
- 22.1.2. Liver
- 22.1.3. Gallbladder and Biliary Tract
- 22.1.4. Retroperitoneum and Large Vessels
- 22.1.5. Pancreas
- 22.1.6. Bladder
- 22.1.7. Kidneys
- 22.1.8. Bladder
- 22.1.9. Prostate and Seminal Vesicles
- 22.1.10 Uterus and Ovaries

22.2. Technical Requirements
- 22.2.1. Ultrasound Equipment
- 22.2.2. Types of Transductors for Abdominal Examination
- 22.2.3. Basic Ultrasound Settings
- 22.2.4. Patient Preparation

22.3. Examination Technique
- 22.3.1. Examination Planes
- 22.3.2. Probe Movements
- 22.3.3. Visualization of Organs According to Conventional Sectioning
- 22.3.4. Systematic Examination

22.4. ECO-FAST Methodology
- 22.4.1. Equipment and Transducers
- 22.4.2. FAST I
- 22.4.3. FAST II
- 22.4.4. FAST III. Perivesical Effusion
- 22.4.5. FAST IV. Pericardial Effusion
- 22.4.6. ECO-FAST V. Exclude ABD Aortic Aneurysm

22.5. Ultrasound Scan of the Digestive System
- 22.5.1. Liver
- 22.5.2. Gallbladder and Bile Ducts
- 22.5.3. Pancreas
- 22.5.4. Bladder

22.6. Genitourinary Ultrasound
- 22.6.1. Kidney
- 22.6.2. Urinary Bladder
- 22.6.3. Male Genital System
- 22.6.4. Female Genital System

22.7. Usefulness of ultrasound in renal, hepatic and pancreatic transplant patients.
- 22.7.1. Normal ultrasound in the patient with renal transplantation
- 22.7.2. Acute Tubular Necrosis (ATN)
- 22.7.3. Acute Rejection (AR)
- 22.7.4. Chronic Transplant Dysfunction
- 22.7.5. Normal Ultrasound in Liver Transplant Patients
- 22.7.6. Normal Ultrasound in Pancreas Transplant Patients

Module 23. Clinical Musculoskeletal Ultrasound

23.1. Anatomical Review
- 23.1.1. Shoulder Anatomy
- 23.1.2. Elbow Anatomy
- 23.1.3. Wrist and Hand Anatomy
- 23.1.4. Hip and Thigh Anatomy
- 23.1.5. Knee Anatomy
- 23.1.6. Ankle, Foot, and Leg Anatomy

23.2. Technical Requirements
- 23.2.1. Musculoskeletal Ultrasound Equipment
- 23.2.2. Methodology of execution
- 23.2.3. Ultrasound Imaging
- 23.2.4. Validation, Reliability, and Standardization
- 23.2.5. Ultrasound-Guided Procedures

23.3. Examination Technique
- 23.3.1. Basic Concepts in Ultrasound
- 23.3.2. Guidelines for Proper Examination
- 23.3.3. Ultrasound Examination Technique of the Shoulder
- 23.3.4. Ultrasound Examination Technique of the Elbow
- 23.3.5. Ultrasound Examination Technique of the Wrist and Hand
- 23.3.6. Ultrasound Examination Technique of the Hip
- 23.3.7. Ultrasound Examination Technique of the Thigh
- 23.3.8. Ultrasound Examination Technique of the Knee
- 23.3.9. Ultrasound Examination Technique of the Leg and Ankle

23.4. Musculoskeletal Sonoanatomy: I. Upper Limbs
- 23.4.1. Ultrasound Anatomy of the Shoulder
- 23.4.2. Ultrasound Anatomy of the Elbow
- 23.4.3. Ultrasound Anatomy of the Wrist and Hand

23.5. Musculoskeletal Sonoanatomy: II. Lower Limbs
- 23.5.1. Ultrasound Anatomy of the Hip
- 23.5.2. Ultrasound Anatomy of the Thigh
- 23.5.3. Ultrasound Anatomy of the Knee
- 23.5.4. Ultrasound Anatomy of the Leg and Ankle

23.6. Ultrasound in the Most Common Acute Musculoskeletal Injuries
- 23.6.1. Muscle Injuries
- 23.6.2. Tendon Injuries
- 23.6.3. Ligament Injuries
- 23.6.4. Subcutaneous Tissue Injuries
- 23.6.5. Bone Injuries
- 23.6.6. Joint Injuries
- 23.6.7. Peripheral Nerve Injuries

Module 24. Ultrasound Approach to Major Syndromes

24.1. Ultrasound in Acute Renal Failure
- 24.1.1. Introduction
  - 24.1.1.1. Pre-Renal Acute Kidney Injury (AKI)
  - 24.1.1.2. Renal or Intrinsic Acute Kidney Injury (AKI)
  - 24.1.1.3. Post-Renal or Obstructive Acute Kidney Injury (AKI)
- 24.1.2. Hydronephrosis
- 24.1.3. Nephrolithiasis (Kidney Stones)
- 24.1.4. Acute Tubular Necrosis
- 24.1.5. Doppler Ultrasound in Acute Renal Failure
- 24.1.6. Bladder Ultrasound in Acute Renal Failure

24.2. Ultrasound in Trauma
- 24.2.1. FAST and e-FAST (Hemothorax and Pneumothorax)
- 24.2.2. Ultrasound Evaluation in Special Situations
- 24.2.3. Hemodynamic Assessment Focused on Trauma

24.3. Ultrasound in Stroke
- 24.3.1. Introduction
- 24.3.2. Justification
- 24.3.3. Initial Assessment
- 24.3.4. Ultrasound Evaluation
- 24.3.5. Ultrasound-Guided Management

24.4. Ultrasound in Cardiac Arrest
- 24.4.1. Cerebral Hemodynamics
- 24.4.2. Hemodynamics in Cardiac Arrest
- 24.4.3. Use of Ultrasound During Resuscitation
- 24.4.4. Use of Ultrasound After Return of Spontaneous Circulation

24.5. Ultrasound in Shock
- 24.5.1. Definition, Types of Shock, and Echocardiographic Findings
  - 24.5.1.1. Definition
  - 24.5.1.2. Types of Shock
  - 24.5.1.3. Advantages of ultrasound in the recognition and management of the different etiologies of shock
  - 24.5.1.4. Considerations in the ICU
  - 24.5.1.5. Hemodynamic Monitoring with Ultrasound

24.6. Ultrasound in Respiratory Failure
- 24.6.1. Clinical Etiology of Dyspnea
- 24.6.2. Approach to the Patient with Dyspnea
- 24.6.3. Usefulness of Clinical Ultrasound in the Patient with Dyspnea
- 24.6.4. Pulmonary Ultrasound
- 24.6.5. Echocardiography

Module 25. Ultrasound-Guided Procedures

25.1. Airway Management
- 25.1.1. Advantages and Indications
- 25.1.2. Basic Aspects: Ultrasound Specifications and Ultrasound Anatomy
- 25.1.3. Orotracheal Intubation Technique
- 25.1.4. Percutaneous Tracheotomy Technique
- 25.1.5. Common Problems, Complications, and Practical Tips

25.2. Vascular Access
- 25.2.1. Indications and Advantages over Anatomical Reference Techniques
- 25.2.2. Current Evidence on Ultrasound-Guided Vascular Access
- 25.2.3. Basic Aspects: Ultrasound Specifications and Ultrasound Anatomy
- 25.2.4. Ultrasound-Guided Central Venous Cannulation Technique
- 25.2.5. Ultrasound-Guided Peripheral Catheter and Peripherally Inserted Central Catheter (PICC) Technique
- 25.2.6. Ultrasound-Guided Arterial Cannulation Technique
- 25.2.7. Implementation of an Ultrasound-Guided Vascular Access Protocol
- 25.2.8. Common Problems, Complications, and Practical Tips

25.3. Thoracentesis and Pericardiocentesis
- 25.3.1. Indications and Advantages over Anatomical Reference Techniques
- 25.3.2. Basic Aspects: Ultrasound Specifications and Ultrasound Anatomy
- 25.3.3. Ultrasound Specifications and Pericardial Drainage Technique
- 25.3.4. Ultrasound Specifications and Thoracic Drainage Technique
- 25.3.5. Common Problems, Complications, and Practical Tips

25.4. Paracentesis
- 25.4.1. Indications and Advantages over Anatomical Reference Techniques
- 25.4.2. Basic Aspects: Ultrasound Specifications and Ultrasound Anatomy
- 25.4.3. Ultrasound Specifications and Technique
- 25.4.4. Common Problems, Complications, and Practical Tips

25.5. Lumbar Puncture
- 25.5.1. Indications and Advantages over Anatomical Reference Techniques
- 25.5.2. Basic Aspects: Ultrasound Specifications and Ultrasound Anatomy
- 25.5.3. Technique
- 25.5.4. Common Problems, Complications, and Practical Tips

25.6. Drainage and Catheterization
- 25.6.1. Suprapubic Catheterization
- 25.6.2. Drainage of Fluid Collections
- 25.6.3. Foreign Body Extraction

Module 26. Advanced Practice Nursing (APN)

26.1. Advanced Practice Nursing (APN)
26.2. Advanced Practice in Professional Nursing
26.3. Present and Future
26.4. Area of Application
26.5. Career Opportunities
26.6. APN in Research
26.7. APN in Teaching: Doctoral Degree
26.8. APN in Management
- 26.8.1. Clinical Financial Management
- 26.8.2. Primary Care Center (PCC) Management
- 26.8.3. Hospital Management

26.9. APN in Spanish-Speaking Countries
26.10. APN Clinical Practice Application

Module 27. Fundamentals of Nursing and Advanced Practice

27.1. Theories and Models in EPA
- 27.1.1. Conceptual Modeling
- 27.1.2. Theories

27.2. Evidence-Based Nursing (EBN)
- 27.2.1. Origin and Evolution
- 27.2.2. Theoretical Framework
- 27.2.3. EBN Today: Clinical Implications
- 27.2.4. Main Factors Favoring the Application of EBN
- 27.2.5. Barriers to the Application of EBN

27.3. Developing Advance Care Plans
- 27.3.1. Nursing Care Processes (NCP)
- 27.3.2. Classification and Elaboration of Advanced Nursing Care Plans

27.4. Advanced Practice in Patient Assessment
- 27.4.1. Assessment Processes
  - 27.4.1.1. Obtaining Results
  - 27.4.1.2. Data Organization : Functional Health Patterns
  - 27.4.1.3. Data Validation

27.5. Nursing Diagnosis
- 27.5.1. Concept and Evolution of Nursing Diagnosis
- 27.5.2. Differences Between Nursing Diagnosis and Medical Diagnosis
- 27.5.3. Nursing Diagnoses
- 27.5.4. Classification of NANDA Diagnoses
- 27.5.5. Components of a Nursing Diagnosis
- 27.5.6. Types of Nursing Diagnoses
- 27.5.7. Nursing Diagnosis Statement
- 27.5.8. Nursing Diagnosis Management
- 27.5.9. Diagnostic Accuracy
- 27.5.10 Most Frequent Errors in Diagnostic Judgment
- 27.5.11 Recommendations for Correctly Formulating Nursing Diagnoses

27.6. Therapeutic Judgment in Nursing
- 27.6.1. Planning
- 27.6.2. Implementation
- 27.6.3. Evaluation

27.7. Advanced Practice in Patients with Chronic Pathology
27.8. Nursing in Case Management
  27.8.1. Competencies of Nursing Case Managers
27.9. Nurse Prescriptions
27.10. Supervising and Coordinating Nursing Teams
  27.10.1. Leadership Styles
  27.10.2. Recommendations for Supervising and Coordinating Nursing Teams

Module 28. Advanced Practice in Special Services

28.1. Advanced Hospital Triage Systems
28.2. Advanced Procedures and Techniques in Hospital Emergency Departments
28.3. Advanced Out-of-Hospital Triage Systems
28.4. Advanced Medical Transportation
28.5. Nursing Techniques and Procedures in Out-of-Hospital Emergencies
28.6. Advanced Management of Polytraumatized Patients
28.7. Advanced Management of Patients in Major Disasters
28.8. Advanced Practice in Critically Ill Patients
28.9. Mechanical Ventilation
28.10. Advanced Practice Nursing in Anesthesia and Resuscitation

Module 29. Advanced Digestive, Endocrinology and Nutrition Practice

29.1. Semiology and Examination of the Digestive Tract
29.2. Special Nasogastric Probes
29.3. Advanced Management of Enteral Nutrition
29.4. Advanced Management of Parenteral Nutrition
29.5. Advanced Diet Therapy
  29.5.1. Advanced Nutritional Assessment
29.6. Diabetic Education
  29.6.1. Injection Techniques and Common Errors
  29.6.2. Continuous Glucose Monitoring Systems
29.7. Ostomies
29.8. Advanced Practice Nursing in Digestive Surgery
29.9. Nursing Competencies in Digestive System Diagnostic Tests
29.10. Advanced Practice in Oral Health

Module 30. Minor Surgery and Wound Care

30.1. Types of Wounds
30.2. Complex Chronic Wounds
30.3. Advanced Practice Nursing in Chronic Complex Wound Care
30.4. Debridement Techniques
30.5. Advanced Burn Management
30.6. Negative Pressure Therapy
30.7. Incision with Drainage, Skin and Subcutaneous Tissue Biopsy
30.8. Treating Warts, Molluscum Contagiosum and Papillomas
30.9. Extraction of Foreign Bodies
30.10. Sutures

Module 31. Oncohematology and Palliative Care

31.1. Chemotherapy
31.2. Radiotherapy
  31.2.1. External
  31.2.2. Brachytherapy and Intracavitary
  31.2.3. Systemic Coaching
31.3. Central Catheter with Subcutaneous Reservoir: Hickman Catheter
31.4. Peripherally Inserted Central Catheter (PICC): Midline Catheter
31.5. Oncologic Emergencies
31.6. Special Care for Patients Undergoing Oncologic Treatment
  31.6.1. General Adverse Effects
  31.6.2. Mucositis
  31.6.3. Nausea and Vomiting
  31.6.4. Skin and Appendages Alterations
31.7. Advanced Management of Analgesic Pharmacotherapy in Oncologic Pain
31.8. Hematopoietic Progenitor Transplantation
31.9. Hemoderivatives
31.10. Advanced Palliative Care
  31.10.1. End-of-Life Care: Grief Management
  31.10.2. Family Care

Module 32. Nephrourology

32.1. Urinary and Renal System Exploration
32.2. Advanced Diagnostic Techniques in Nephrourology
32.3. Urinalysis and Urinary Sediment Interpretation
32.4. Bladder Catheterization
32.5. Using Drugs and Invasive Treatments in the Urinary System
32.6. Urinary Incontinence
  32.6.1. Effort
  32.6.2. Urgent Urination
  32.6.3. Overflow
32.7. Bladder Re-education Techniques
32.8. Hemodialysis
32.9. Vascular Accesses for Dialysis
32.10. Peritoneal Dialysis

Module 33. Approach to Mental Health Problems in Primary Care

33.1. Prevalence of Mental Disorders
33.2. Normal vs Pathological Anxiety
33.3. Classifications, Diagnostic Criteria and Differential Diagnostics
33.4. Pharmacological Treatment
33.5. Emergency Management
33.6. Non-Pharmacological Treatment: Psychotherapy and Medicinal Herbs
33.7. ADHD
33.8. Semi-Structured Interview and Scales
33.9. Other Disorders that Can Be Approached from Primary Care: Autism Spectrum Disorder (ASD) and Acceptance Commitment Therapy (ACT)
33.10. Advice for Patients and Care Plans

04

Teaching Objectives

With this Advanced Master's Degree, professionals will acquire the knowledge and skills necessary to manage the most advanced medical technologies and perform precise monitoring of patients. They will also focus on developing key competencies for managing emergencies, preventing complications, and effectively communicating with families. Ethical decision-making and teamwork will also be emphasized, enabling professionals to collaborate with other specialists in a multidisciplinary environment. With a holistic approach, graduates will not only improve the physical care of patients but will also strengthen their emotional well-being, ensuring a healthy balance.

With this Advanced Master's Degree, you will excel in high-pressure situations with a practical and direct approach"

General Objectives

- Develop skills to provide specialized care to patients in the Intensive Care Unit (ICU)
- Apply principles of continuous assessment and monitoring of critically ill patients in the ICU
- Develop competencies in managing multidisciplinary teams in the care of ICU patients
- Apply intervention strategies for managing Respiratory Failure in critically ill patients
- Develop skills in medication administration and dosing in emergency situations
- Apply principles of asepsis and infection control in the management of ICU patients
- Develop competencies in caring for and managing patients with advanced life support
- Apply hemodynamic support protocols and blood pressure control in critically ill patients
- Manage care for patients with severe trauma and multisystemic pathologies in the ICU
- Develop skills in performing and monitoring invasive procedures in the ICU
- Apply sedation and analgesia strategies for the comfort and well-being of critically ill patients
- Develop competencies in managing patients with severe neurological disorders in the ICU
- Apply mechanical ventilation techniques and monitoring in patients with Respiratory Failure
- Manage enteral and parenteral nutrition control in critically ill patients
- Develop skills in interpreting laboratory results and diagnostic tests in the ICU
- Apply strategies for managing renal and metabolic complications in critically ill patients
- Develop competencies in caring for patients with extracorporeal support and dialysis machines
- Apply ethical principles in decision-making and managing critical situations in the ICU
- Develop skills to provide emotional support to patients' families in the ICU
- Apply bioethical principles in end-of-life care management in the ICU
- Develop strategies for preventing pressure ulcers and other complications due to immobilization
- Manage patient safety and the prevention of adverse events in the ICU
- Develop skills to intervene in cases of cardiopulmonary arrest in the ICU
- Apply non-invasive monitoring techniques in patients with severe cardiac diseases in the ICU
- Develop competencies to coordinate the transition of critically ill patients from the ICU to less intensive care units

Specific Objectives

Module 1. Organization and Management of an Intensive Care Unit

- Recognize the importance of proper management of the Intensive Care Unit
- Provide a safe environment for patients in the ICU through the assessment and correction of present risk factors

Module 2. Assessment and Monitoring of Critically Ill Patients

- Describe the different modes of invasive and non-invasive monitoring for critically ill patients, as well as their correct techniques
- Analyze the importance of completing various nursing records used in the ICU and interpret their value in the patient's rehabilitation process

Module 3. Life Support

- Gain in-depth knowledge of life support and management of action protocols
- Understand and apply the chains of survival for optimal patient care in different life-threatening situations
- Acquire advanced knowledge of life support in special situations
- Show the procedures carried out on the patient undergoing CPR and knowledge of the most pioneering techniques

Module 4. Critical Care for Patients with Cardiovascular Disorders

- Deeply understand the anatomy and physiology of the cardiovascular system
- Recognize different conditions and learn to manage them thoroughly

Module 5. Advanced Practice in Cardiology

- Delve into the analysis and understanding of ECGs
- Gain in-depth knowledge of the main diagnostic tests in cardiology
- Learn the anatomy and physiology of the cardiovascular system at an expert level
- Master cardiac rehabilitation guidelines and exercises

Module 6. Clinical Cardiac Ultrasound

- Explain cardiac anatomy
- Define the technical requirements for cardiac ultrasound
- Explain localization and visualization in pericardial windows
- Describe sonoanatomy and sonophysiology in cardiac ultrasound
- Explain the different structural alterations to identify in cardiac ultrasound
- Define the principles of hemodynamic ultrasound

Module 7. Critical Care in Patients with Respiratory Disorders

- Develop advanced theoretical knowledge of respiratory physiology and fundamentals of mechanical ventilation
- Demonstrate new ventilation devices and therapies in the patient

Module 8. Care for Patients with Neurological Disorders

- Gain in-depth knowledge of the anatomy and physiology of the nervous system
- Recognize the most common neurological pathologies in the ICU
- Identify cerebrovascular disease and delve into its approach and management
- Assess the coma patient, evaluate the degree of consciousness and provide specific care.

Module 9. Digestive and Renal Pathology in the ICU and Other Pathologies

- Examine the main digestive and renal pathologies treated in ICU nursing
- Review procedures for patients with digestive and urological ostomies

Module 10. Critical Care for Severe Trauma Patients

- Apply the appropriate therapeutic procedures to the critically ill patient
- Anticipate the most common complications arising from critical illnesses and their treatments to prevent them

Module 11. Pharmacology in Intensive Care

- Update the procedures for using the most common medications in the ICU
- Describe the therapeutic actions and major side effects of frequently used ICU medications

Module 12. Maternal and Child Health

- Monitor normal pregnancy
- Learn how to interpret cardiotocographic records
- Understand procedures and protocols in cervical cancer prevention Perform cytology for smears and liquid medium
- Deepen knowledge in obstetric ultrasound
- Provide comprehensive care for children in pediatric ICU
- Learn neonatal CPR in the delivery room

Module 13. Pediatric Clinical Ultrasound

- Define the technical requirements for pediatric ultrasound
- Explain the examination technique in pediatric ultrasound
- Describe pediatric sonoanatomy and sonophysiology
- Explain the application of ultrasound in major pediatric syndromes

Module 14. Critical Care for Paediatric Patients

- Recognize the most frequent pediatric and adult pathological processes in the Intensive Care Unit
- Perform the nursing role in a pediatric and adult basic and/or advanced life support situation according to the latest European Resuscitation Council recommendations

Module 15. Hospital Transport

- Gain an in-depth knowledge of the different types of medical transport used today and their evolution throughout history
- Prepare and supervise in-hospital and inter-hospital transfer of the adult critically ill patient

Module 16. Anesthesia and Surgery

- Describe the characteristics, process and treatment of malignant hyperthermia
- Identify and know how to apply the different types of anesthesia
- Provide care for the critical post-surgical patient
- Provide critical care to transplant patients
- Manage the crash cart during anesthesia care
- Manage patients in the Post-Anesthesia Care Unit (PACU) and recognize potential complications

Module 17. Research Methodology in Intensive Care Nursing

- Learn how to retrieve quality specialized information in the Health Sciences
- Handle different reference managers
- Know the different types of instruments for critical reading
- Learn to write articles with a scientific structure, as well as to write case reports, reviews, articles, theses and dissertations

Module 18. Ultrasound Imaging

- Define the physical principles which are involved in ultrasound imaging
- Establish an appropriate ultrasound sequence for each examination of a patient
- Explain the different ultrasound modes
- Define the different types of ultrasound machines and their applications
- Describe the different ultrasound planes
- Explain the principles of echonavigation

Module 19. Clinical Thoracic Ultrasound

- Explain thoracic anatomy
- Define the technical requirements for thoracic ultrasound
- Explain the examination technique of thoracic ultrasounds
- Explain the principles of ultrasounds of the thoracic wall, the pleura and the mediastinum
- Define the principles of pulmonary ultrasounds
- Define the principles of diaphragmatic ultrasounds

Module 20. Clinical Vascular Ultrasound

- Explain vascular anatomy
- Define the technical requirements for vascular ultrasound
- Explain the examination technique for vascular ultrasounds
- Explain the principles of ultrasound for the main thoracoabdominal vessels
- Define the principles of ultrasounds of the supra-aortic trunks.
- Explain the principles of ultrasound of peripheral arterial circulation

Module 21. Clinical Cerebral Ultrasound

- Describe cerebral hemodynamics
- Explain the location and visualization of ultrasound windows in cerebral ultrasound
- Define the different ultrasound modalities in cerebral ultrasound
- Explain the principles of ultrasound of the supraaortic trunks
- Explain the different structural alterations to identify in cerebral ultrasounds
- Explain the different hemodynamic alterations to identify in cerebral ultrasound

Module 22. Clinical Abdominal Ultrasound

- Explain abdominal anatomy
- Define the technical requirements for abdominal ultrasound
- Explain the examination technique for abdominal ultrasounds
- Explain the ECO FAST methodology
- Explain the principles of ultrasound of the digestive system
- Explain the principles of genitourinary ultrasound

Module 23. Clinical Musculoskeletal Ultrasound

- Explain the anatomy of the musculoskeletal system
- Define the technical requirements for musculoskeletal ultrasound
- Explain the examination technique in musculoskeletal ultrasound
- Explain the principles of ultrasound in the most common acute musculoskeletal injuries
- Module 24. Ultrasound Approach to Major Syndromes
- Explain the use of ultrasound in cardiac arrest
- Define the application of ultrasound in shock
- Explain the use of ultrasounds in Respiratory Failure
- Describe the use of ultrasound in cases of sepsis
- Explain the use of ultrasounds in abdominal pain
- Describe the use of ultrasound in trauma cases
- Module 25. Ultrasound-Guided Procedures
- Explain the process of performing ultrasound-guided intubation
- Describe the technique for vascular cannulation using ultrasound
- Explain the process of performing thoracentesis using ultrasound
- Describe the technique of ultrasound-guided pericardiocentesis
- Explain the process of performing paracentesis with ultrasound support
- Describe the technique for performing ultrasound-guided drainage and probing

Module 26. Advanced Practice Nursing (APN)

- Deepen knowledge in advanced nursing research
- Study advanced nursing in management
- Explore the human aspects related to patient care
- Learn the history of advanced nursing practice

Module 27. Fundamentals of Nursing and Advanced Practice

- Delve into the fundamentals of the nursing profession
- Understand nursing processes from an expert perspective
- Learn how to correctly perform nursing care processes in advanced practice
- Achieve the necessary knowledge for the correct prescribing of medications by nursing professionals

Module 28. Advanced Practice in Special Services

- Employ expert skills in hospital emergency services.
- Know the main action protocols in out-of-hospital emergencies
- Expertly manage and assist nursing practices in critical care units
- Manage invasive and non-invasive ventilators at an advanced level
- Master the materials and drugs necessary to perform anesthetic methods
- Internalize the main basic and advanced life support guidelines

Module 29. Advanced Digestive, Endocrinology and Nutrition Practice

- Gain advanced knowledge of digestive anatomy and physiology
- Gain advanced knowledge of hormones and metabolism
- Skilfully manage enteral and parenteral nutrition
- Conduct diabetology education consultations

Module 30. Minor Surgery and Wound Care

- Learn advanced techniques in the care of chronic wounds Delve into dressings and wound care with negative pressure therapy
- Learn procedures in minor dermatological surgery, such as excision of small tumors like warts and condylomas
- Master different suturing techniques
- Professionalize the process of obtaining biopsy samples

Module 31. Oncohematology and Palliative Care

- Know the main drugs used in chemotherapy
- Internalize the processes of carcinogenesis
- Gain in-depth knowledge of radiotherapy and its subtypes
- Learn to master the handling of central catheters Learn how to place a PICC line
- Learn how to manage patient and family at the end of life
- Know how to use and administer hematopoietic progenitor cell transplants

Module 32. Nephrourology

- Master the advanced anatomy and physiology of nephrourology
- Manage the different types of dialysis
- Learn to access dialysis sites
- Understand the main rehabilitation techniques for incontinence
- Gain in-depth knowledge of bladder retraining
- Know how to interpret urine analysis and when and which tests to request

Module 33. Approach to Mental Health Problems in Primary Care

- Evaluate the main mental health diagnoses based on the DSM-5 manual
- Learn how to analyze the needs of patients with mental health problems from a primary care perspective
- Develop key therapeutic techniques in mental health care
- Implement strategies for follow-up and rehabilitation in psychiatric patients
- Demystify the taboos and social stigmatization faced by individuals with psychiatric conditions
- Acquire the necessary competencies to manage a day center for individuals with mental illness

You will develop the ability to work in teams with other health professionals, ensuring a collaborative approach that benefits patients"

05

Career Opportunities

Upon completing this Advanced Master's Degree, professionals will be able to work in a wide variety of healthcare settings. Among the main career opportunities are high-complexity hospitals, specialized critical care centers, pediatric or adult Intensive Care Units, and private clinics. Additionally, graduates will possess the necessary competencies to take on leadership roles in the field, enabling them to enter the academic, research, and development sectors in Intensive Care. In this way, graduates will contribute to the continuous improvement of care standards in these units.

You will master the most advanced techniques and enhance your ability to respond in emergencies with a unique specialization"

Graduate Profile

The graduate will have a comprehensive view of care, being able to address both the physical and emotional needs of patients and their families. They will also be an expert in emergency management, ethical decision-making, and multidisciplinary teamwork, with the ability to adapt to high-pressure environments and lead clinical teams. Furthermore, they will provide humanized care in critical situations, excelling in effective communication, empathy, and resilience. Finally, this expert will contribute to the continuous improvement of Intensive Care, optimizing the use of resources in these high-complexity environments.

You will become a leader in intensive care, able to adapt to new technologies and continually improve the quality of patient care.

- **Leaders in Critical Care:** Coordinate multidisciplinary teams and manage Intensive Care Units, ensuring efficient, safe, and high-quality care
- **Safety Protocol Manager:** Develop, implement, and oversee safety protocols, infection prevention, and quality care for critically ill patients
- **Communicator in Critical Situations:** Address effective communication with patients, families, and the medical team, capable of conveying complex information clearly and empathetically, especially in moments of uncertainty and distress
- **Stress and Professional Well-being Manager:** Manage stress and prevent burnout, developing strategies to maintain emotional balance in a high-pressure environment

After completing this university program, you will be able to apply your knowledge and skills in the following positions:

1. **Intensive Care Unit (ICU) Unit Director:** Manager of medical teams and resources in ICU units, ensuring high-quality care and the implementation of safety protocols.
2. **Critical Care Coordinator:** Supervisor of multidisciplinary teams in ICU settings, ensuring efficient care and proper implementation of treatments and advanced technologies.
3. **Head of ICU Nursing:** Supervisor and leader of nursing staff in the ICU, managing personnel, care quality, and clinical protocols.
4. **Intensive Care Coordinator:** Responsible for the care of critically ill patients, with advanced skills in monitoring vital signs, managing emergencies, and medical technologies.
5. **ICU Consultant:** Advisor to healthcare institutions on the implementation of care protocols in critical units, improving service quality and efficiency.
6. **Research Manager in Intensive Care:** Responsible for researching and developing new techniques, technologies, and protocols to improve care in ICU settings.
7. **Quality Supervisor in Intensive Care:** Supervisor of compliance with quality and safety standards in the care of critically ill patients, implementing continuous improvements in care processes.
8. **Emergency and Safety Protocol Manager:** Responsible for creating, implementing, and overseeing safety protocols and emergency management in ICU units.
9. **Clinical Services Coordinator in Intensive Care:** Responsible for planning, organizing, and optimizing clinical services in an ICU, ensuring proper resource allocation and efficient unit functioning.

Seize the opportunity to specialize in one of the most in-demand and recognized areas within Nursing"

06

Study Methodology

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

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

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

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.
The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

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

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

The most comprehensive study plans at the international level

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

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

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

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

Case Studies and Case Method

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

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

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

Relearning Methodology

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

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

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

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

A 100% online Virtual Campus with the best teaching resources

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

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

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

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

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

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

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

The university methodology top-rated by its students

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

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

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

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

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

Study Material

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

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Practicing Skills and Abilities

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

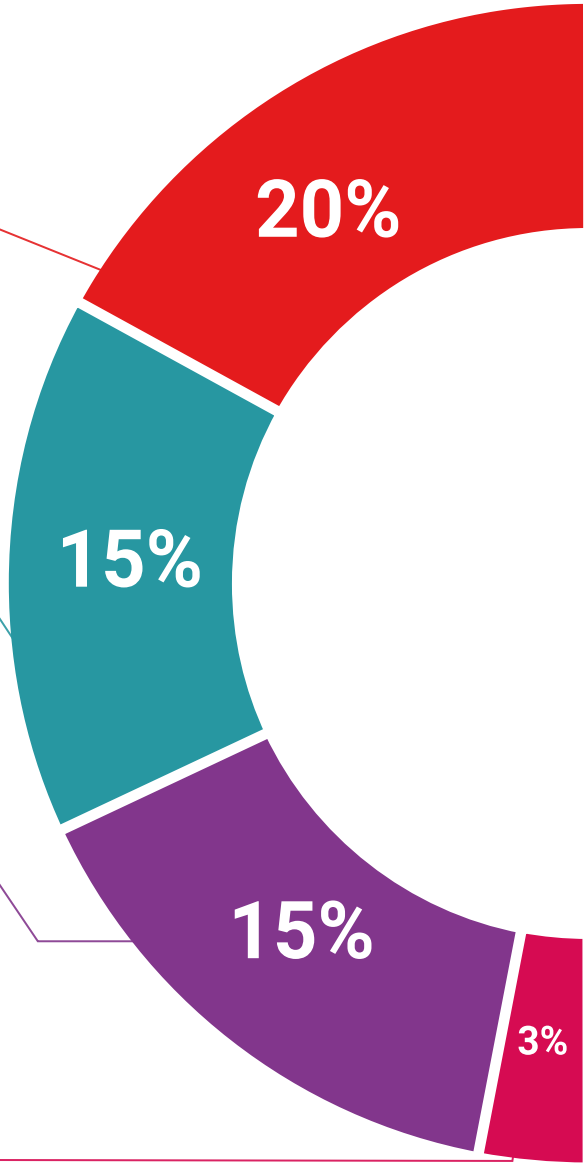
Interactive Summaries

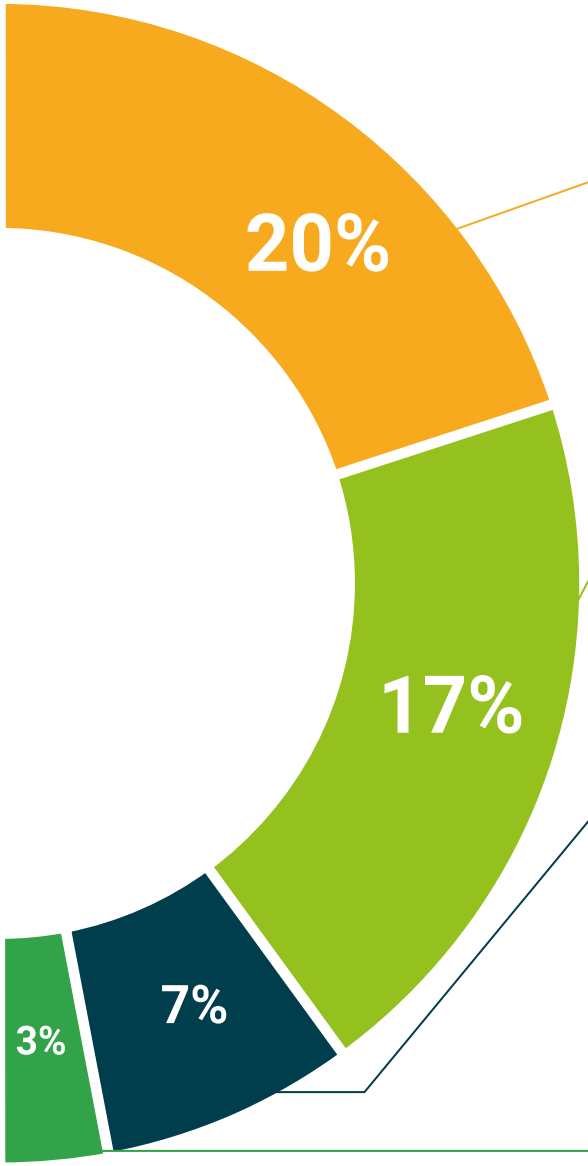
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

Additional Reading

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





Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

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 for 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

Teaching Staff

The faculty of the Advanced Master's Degree is composed of renowned nurses and specialists with extensive experience in the field of Intensive Care. These professionals bring their vast experience and up-to-date knowledge, combining theory and practice in teaching to offer a high-quality program tailored to the current needs of the healthcare field.

Thanks to the specialized guidance from the best faculty, you will develop multidisciplinary competencies that will enable you to provide comprehensive care"

International Guest Director

Dr. Anselmo Caricato is a distinguished Italian **physician** and **academic** with a prestigious career in the field of **anesthesiology** and **intensive care**. Throughout his career, this expert has continuously participated in research projects alongside specialists from **different countries** and European scientific institutions. As a result, he has become a true leader in the management of **traumatic injuries** and other critical **neurological conditions**.

Among other lines of work, he has collaborated on several **clinical trials**, such as the **Eurotherm 3235 Trial**, and with the **European Brain Injury Consortium**. He has also analyzed the efficacy and safety of various innovative treatments to further the study of **neurological contusions**.

His results have been widely endorsed by the most prestigious **scientific publications**. Proof of this are the more than **60 peer-reviewed articles** he has published in high-impact global journals such as *Stroke, Critical Care Medicine, International Journal of Critical Illness and Injury Science, Neurological Research,* and many others. At the same time, he is a member of the **editorial board** of the *World Journal of Critical Care Medicine and the Austin Journal of Emergency and Critical Care Medicine*.

In terms of his professional career, this expert, who obtained his degree in **Medicine** and **Surgery** from the Catholic University of the Sacred Heart in Rome, has been associated with the **A. Gemelli University Hospital.** From that institution, he led the **Trauma Intensive Care Unit** in the Emergency Department for several years.

He has also worked as an **intensive care physician** in the **Vatican City**. In addition to his healthcare work, this specialist has been actively involved in academic activities, mainly at his alma mater. He has also been selected as Director of the ***American Trauma Life Support*** Program at the A. Gemelli University Hospital.

Dr. Caricato, Anselmo

- Chief of Neurosurgical Intensive Care at A. Gemelli University Hospital, Rome, Italy
- Intensive Care Physician in Vatican City
- Director of the ATLS (American Trauma Life Support) Program at "A. Gemelli" University Hospital
- Academic of the Faculty of Medicine and Surgery of the Catholic University of the Sacred Heart
- Reviewer and contributor to the Editorial Board of the World Journal of Critical Care Medicine and Austin Journal of Emergency and Critical Care Medicine
- Member of the Italian Society of Anesthesia, Analgesia, Resuscitation, and Intensive Care, Coordination Group for the Study of Neuroanesthesia and Neurointensive Care, Neuroanesthesia and Neurointensive Care Group

Thanks to TECH, you will be able to learn with the best professionals in the world"

Guest Director

Ms. Díez Sáenz, Cristina

- Head Nurse of the Adult Intensive Care Unit at Gregorio Marañón General University Hospital
- Nursing supervisor at Gregorio Marañón ICU
- Nurse Assistant in different hospitalization areas in different health centers and hospitals
- Participation as collaborating researcher in the multicenter project "National validation of the scale of satisfaction with nursing care from the perspective of the critically ill patient"

Management

Ms. Lospitao Gómez, Sara

- Intensive Care and Interventional Cardiology Nurse at Fuenlabrada University Hospital (HUF)
- Nurse of the Post-Surgical Intensive Care Unit (PICU) of Cardiac Surgery at the 12 de Octubre University Hospital (HUF)
- Coronary Intensive Care Unit Nurse at the 12 de Octubre University Hospital
- Nurse of the Interventional Cardiology Unit (Hemodynamics, EEF and Implants).
- Responsible for the #TEAyudamos program at HUF and member of the #JuntosXElCáncer group.
- Instructor in Advanced Life Support by the National CPR Plan of the Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units (SEMICyUC).
- Member of: Care Sub-Commission (HUF) Care Commission (HUF) Student Services of the Ulcers and Wounds Working Group (HUF)

Dr. Álvarez Fernández, Jesús Andrés

- Head Physician at the Juaneda Miramar Hospital
- Specialist in Intensive Care Medicine and Burn Patient Management at the University Hospital of Getafe
- Associate Researcher in the area of Neurochemistry and Neuroimaging at the University of La Laguna

Ms. Alonso Díaz, Verónica

- Advanced Practice Nurse in the Community of Madrid
- Head of Nursing CAP Santa Isabel
- Head of Nurse at CAP Cuzco
- University Diploma in Nursing from the University School of the Red Cross, associated to the UAM

Mr. Jiménez Vales, Luis

- Nurse specialized in Obstetrics and Gynecology
- Nurse in the area of Donors and Blood Bank, Fundación Jiménez Díaz, Madrid
- Pediatrics EIR Teaching Coordinator, CTO Nursing Group
- Teaching coordinator of Oncohematology and Pain EIR, CTO Nursing Group
- Diploma in Nursing from the Autonomous University of Madrid.
- Specialist in Gynecology and Obstetrics, Gregorio Marañón General University Hospital, Madrid
- Higher Technician Specialist in Clinical Diagnostic Laboratory, IES SIGLO XXI

Teachers

Ms. Álvarez Carrascal, Inmaculada

- Lead Nurse for Patient Safety in the ICU at Gregorio Marañón General University Hospital
- Instrumentalist nurse in operating rooms of Churchill Hospital
- Nurse in various hospital and health center services in the Andalusian Health Service.
- Nursing Diploma from the University of Seville
- Expert in Intensive Care from the Complutense University of Madrid

González Palacios, Rubén

- Clinical Nurse in the Internal Medicine Unit at Doce de Octubre University Hospital
- Clinical Nurse in various Primary Care Centers in the Community of Madrid
- Co-creator of the mobile application "Compatibility drugs" for intravenous compatibility of drugs

Mr. Ruiz - Henestrosa Campos, Manuel Jesús

- Attending Nurse in HGU Puerta del Mar de Cádiz
- Attending Nurse Puerta del Mar General University Hospital from Cádiz
- Associate Professor Practicum III of Nursing
- Collaborating teacher at the International School of Health Sciences
- Nebrija University Collaborating Professor
- Esforem Collaborating Teacher
- Postgraduate Certificate in Nursing

Dr. Flores Herrero, Ángel

- Coordinator of the Angiology, Vascular and Endovascular Surgery Service of the Quirón Salud Toledo Hospital
- Area Specialist in Vascular Surgery at the Enova Medical Center.
- Assistant Physician of Vascular Surgery at the Toledo Hospital Complex.
- Member of the American Society of Surgeons.
- Collaborating Professor at the Catholic University San Antonio de Murcia (UCAM)
- European Board of Vascular Surgery Examiner and Fellow of the American College of Surgeons
- Doctor of Medicine and Surgery
- Master's Degree in Hospital Management

Dr. Fumadó Queral, Josep

- Head of the Emergency Ultrasound Group of the Spanish Society of General and Family Physicians (SEMG).
- Graduate in Clinical Ultrasound and Training of Trainers from the University of Montpelier
- Lecturer at the Associació Mediterrània of General Medicine
- Teacher at the Spanish School of Ultrasound of the Spanish Society of General and Family Physicians (SEMG).
- Honorary Member of the Canary Society of Ultrasound (SOCANECO) and Professor of its Annual Symposium.
- Professor on the Master's Degree in Clinical Ultrasound for Emergencies and Critical Care at the CEU Cardenal Herrera University.

Dr. Igeño Cano, José Carlos

- Head of the Intensive Medicine and Emergency Service at the San Juan de Dios Hospital in Córdoba
- Responsible for the Patient Welfare Area in the HUCI Project, Humanizing Intensive Care
- Coordinator of the Planning and Organization and Management Working Group of the Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units (SEMICYUC)
- Medical Director of the Resuscitation and Post-Surgical Care Unit of the IDC Salud Virgen de Guadalupe Hospital
- Attending ICU Physician in the Health Service of Castilla, La Mancha
- Attending Physician, Medicine and Neurotrauma Unit, Nuestra Señora de la Candelaria Hospital
- Head of Critical Patient Transport Service in Ambulances Juan Manuel SL
- Master's Degree in Clinical Administration, Medical and Healthcare Management from CEU Cardenal Herrera University
- Member of: Pan-American and Iberian Federation of Critical Medicine and Intensive Care; Spanish Society, Intensive Care Medicine, Critical Care and Coronary Units

Dr. Jiménez Díaz, Fernando

- Expert in Sport Medicine and University Professor
- Founder and Director of Sportoledo
- Researcher at the Laboratory of Sports Performance and Injury Readaptation of the University of Castilla La Mancha
- Member of the Medical Service at Club Baloncesto Fuenlabrada.
- PhD in Medicine and Surgery by University of Cordoba
- President of the Spanish Society of Ultrasound.
- Member of: Spanish Society of Sports Medicine, European Federation of Societies for Ultrasound in Medicine and Biology

Dr. Martínez Crespo, Javier

- Specialist in Intensive Care Medicine
- Attending Physician in Radiodiagnostics, University Hospital of Getafe
- Collaborator of the Ecoclub of SOMIAMA
- Bachelor's Degree in Medicine and Surgery
- Associate Professor at the European University of Madrid

Dr. Osiniri Kippes, María Inés

- Pediatrics, Pediatric Ultrasound and Pediatric Nephrology at Clínica Bofill, Girona
- Doctor of Medicine. Research in medical and clinical laboratory with Cum Laude excellence by the University of Girona.
- Master in Health Promotion, University of Girona.
- Degree in Pediatric Ultrasound by the Spanish Society of Ultrasound.
- Pediatric Ultrasonographer, Ecopedatrics. Figueres
- Assistant Pediatrician Head of Pediatric Ultrasound, Fundació Salut Empordá, Hospital de Figueres

Dr. Vollmer Torrubiano, Iván

- Specialist Physician in the Radiology Department of the Hospital Clínic de Barcelona.
- Adjunct Coordinator of the Lung Cancer Functional Unit at Hospital del Mar.
- European Diploma in Radiology
- Specialized training in Radiodiagnosis at the Hospital del Mar in Barcelona.
- Graduate in Medicine and Surgery from the University of Barcelona
- Scientific responsible of the Spanish Society of Cardiothoracic Imaging (SEICAT).
- President of the Oncology Commission of the Spanish Society of Medical Radiology (SERAM).
- Member of the Scientific Committee of the National Congress of SERAM.
- Member of the Scientific Committee of the National Congress of Radiologists of Cataluña.

Dr. Abril Palomares, Elena

- Specialist Physician of the Intensive Care and Major Burns Service at the Getafe University Hospital
- Bachelor's Degree in Medicine and Surgery
- Medical Specialist in Intensive Care and Major Burns Medicine

Dr. Álvarez González, Manuel

- Faculty Specialist at Hospital Clínico San Carlos
- Specialist in Intensive Care Medicine
- Founding Member of the Ecoclub of SOMIAMA
- Bachelor's Degree in Medicine and Surgery

Dr. Vicho Pereira, Raúl

- Clinical Head of the ICU at Quirónsalud Palmaplanas Hospital, Balearic Islands President of the Spanish Society of Ultrasound in Critical Care (ECOCRITIC)
- Instructor of the National CPR Plan
- Specialist in Intensive Care Medicine at Quirónsalud Palmaplanas Hospital, Balearic Islands
- Specialist in Intensive Medicine at Virgen de Valme University Hospital, Seville
- Intensive Care Unit Specialist at Quirónsalud Palmaplanas Hospital, Balearic Islands
- Intensive Care Specialist at Rotger Quirónsalud Clinic, Balearic Islands
- Educational Coordinator for Resident Physicians' Rotations in Critical Care Ultrasound
- Expert Reviewer for the journal Medicina Intensiva
- Over 150 Ultrasound courses in the last 5 years across all autonomous communities in the country for ICU, Anesthesia, and Emergency Medicine
- Organizer of the First ECOCRITIC Congress, Denia, Alicante
- Ultrasound Trainer for the entire ICU service at Donostia University Hospital, Basque Country
- Trainer in Ultrasound for the ICU Service at Manises Hospital, Valencia
- Bachelor's Degree in Medicine and Surgery from the University of Seville
- Member of: Editorial Board of the e-Anestesiar journal, Spanish Society of Ultrasound in Critical Care

Dr. Colinas Fernández, Laura

- Attending Physician of Intensive Care Medicine at the Toledo University Hospital Complex.
- Bachelor's Degree in Medicine and Surgery
- Member of: Spanish Society for Ultrasound in Critical Cases (ECOCRITIC)

Dr. De la Calle Reviriego, Braulio

- Chief of Intensive Care Medicine and Transplant Coordinator at the Gregorio Marañón Hospital.
- Chief of Service at the Hospital Quirón San José
- Collaborating Professor at the Complutense University of Madrid.
- Trainer in Brain Ultrasound of the National Transplant Organization.
- Member of: Gregorio Marañón Institute of Health Research

Dr. Hernández Tejedor, Alberto

- Specialist in Intensive Care Medicine
- Attending Physician of Intensive Care Medicine at Hospital Universitario Fundación Alcorcón
- Intensivist at Hospital Universitario Quirón Madrid
- Author of dozens of scientific publications

Dr. Herrero Hernández, Raquel

- Specialist in Intensive Care Medicine
- Assistant Physician of the Intensive Medicine. Department, Getafe University Hospital.
- Author of numerous scientific publications
- PhD in Medicine from the Autonomous University of Madrid

Dr. Martínez Díaz, Cristina

- Specialist in Intensive Care Medicine
- Bachelor's Degree in Medicine and Surgery
- Doctor at the University Hospital Príncipe of Asturias. Alcalá Henares University
- Member of the EcoClub of SOMIAMA.

Dr. Mora Rangil. Patricia

- Specialist in Intensive Care Medicine, Miguel de Servet Hospital, Zaragoza, Spain.
- Doctor at Miguel Servet Hospital, Zaragoza, Spain
- Graduate of the Faculty of Medicine, Rovira I Virgili University, Tarragona, Spain.
- Degree in Medicine. MIR in Intensive Care, Miguel Servet University Hospital
- Member of the Spanish Society of Critical Care Ultrasound, ECOCRITIC
- Author of the book "Critical patient: Drugs, frequently used fluid therapy and hydroelectrolytic alterations".

Dr. Ortuño Andériz, Francisco

- Physician in the Neurocritical Care and Polytrauma Section at the San Carlos Clinical Hospital
- Specialist in Intensive Care Medicine
- Doctor of Medicine and Surgery, Complutense University of Madrid (UCM)
- Master's Degree in Organization, Management and Administration of Social and Health Care Services

Dr. Palacios Ortega, Francisco de Paula

- Specialist in Intensive Care Medicine
- Associate Physician of the Intensive Care Unit at the University Hospital of Getafe
- Collaborating Physician of the Artificial Intelligence and Knowledge Engineering (AIKE) group, University of Murcia.
- Research collaborator of the WASPSS group, whose objective is the Rational Use of Antibiotics
- Speaker at the Lecture Series of the Center for Surgical Studies, Complutense University of Madrid.

Dr. Phillipps Fuentes, Federico

- Pediatrician.
- Pediatric On-Call Physician of the Emergency Department at the Hospital Interzonal de Agudos Especializado en Pediatría Sor María Ludovica, La Plata.
- Area Specialist in the Pediatric Emergency Department at the Hospital Universitario Materno Insular de Canarias
- Chief of Pediatric Resident Doctors at the Hospital General de Niños Pedro de Elizalde, Buenos Aires.
- Pediatrician of Outpatient Specialties at the Hospital Perpetuo Socorro, Las Palmas de Gran Canaria.

Dr. Serna Gandía, María

- Medical Specialist in Anesthesiology and Resuscitation at the Hospital de Dénia Marina Salud, Alicante.
- Secretary of the Spanish Society of Critical Care Ultrasound (ECOCRITIC).
- Speaker in courses and practical workshops on the use of Ultrasound in Intensive Care
- Bachelor's Degree in Medicine and Surgery
- Specialist in Anesthesiology and Resuscitation
- Course for the management of Ultrasonography in the ICU

Dr. Lamarca Mendoza, María Pilar

- Assistant Physician of the Department of Angiology, Vascular and Endovascular Surgery of the Toledo Hospital Complex.
- Medical specialist in SESCAM (Health Service of Castilla-La Mancha).
- Author of numerous publications and scientific essays at national and international level.
- Degree in Medicine and Surgery from the Autonomous University of Madrid.

Dr. López Cuenca, Sonia

- Specialist in Family Medicine and Intensive Care at the Hospital Universitario Rey Juan Carlos
- Intensivist at the University Hospital of Getafe
- Researcher of the Madrid Health Service
- Intensivist at the Hospital Los Madroños
- Out-of-hospital emergency physician in SUMMA

Dr. López Rodríguez, Lucía

- Medical Specialist of the Department of Intensive Care Medicine and Major Burns of Getafe University Hospital
- Doctor of Medicine, UCM
- Degree in Medicine and Surgery from the UCM.
- Member of the EcoClub of SOMIAMA.

Dr. Temprano Vázquez, Susana

- Attending Physician, Intensive Care Medicine Department, 12 de Octubre University Hospital.
- Teacher's staff of the classroom part of the course ECMO Hybrid Course
- Founding Member of the Ecoclub of SOMIAMA
- Bachelor's Degree in Medicine and Surgery
- Specialist in Intensive Care Medicine

Dr. Yus Teruel, Santiago

- Transplant Coordinator at the La Paz University Hospital of Madrid
- Specialist in Intensive Care Medicine
- Attending Physician in Intensive Medicine at the La Paz-Carlos III University Hospital Complex
- Member of the EcoClub of SOMIAMA.
- Bachelor's Degree in Medicine and Surgery

Dr. Villa Vicente, Gerardo

- Physician of the Spanish Paralympic Committee
- Medical Specialist in Physical Education and Sports Medicine
- Professor of Physical Education and Sports at the University of León.
- Director of fourteen doctoral theses, three master's theses, and thirteen doctoral research projects (DEA)
- Doctor of Medicine and Surgery from the University of Salamanca
- Specialist in Physical Education and Sports Medicine from the University of Oviedo
- Expert in MSK Ultrasound (SEMED-FEMEDE)
- National Sports Medicine Award
- Member of: Institute of Biomedicine of León (IBIOMED), Spanish Paralympic Committee, Parliamentary Commission on the State of Sport (Healthy Lifestyle) of the Parliament of Castilla y León, Group of Experts in Physical Activity and Health for the Development of the A+D Plan of the Superior Sports Council (CSD).

Ms. Fernández Rivas, Irene

- Nurse specialist in Family and Community Nursing, Severo Ochoa Hospital, Leganés
- Nurse in adult consultation, Peña Prieta Health Center
- Nurse on the COVID ward and internal medicine at the Rey Juan Carlos Hospital in Móstoles
- Degree in Nursing from the Complutense University of Madrid
- Master's Degree in Nursing Care, Procedures and Clinical Applications, San Antonio Catholic University

Ms. Casas Reche, Almudena

- Geriatric Nurse Practitioner and Sports Injury Expert
- Nurse at Forus
- Nurse at the Nuestra Señora de Montserrat Nursing Home
- Nurse at Santa Isabel Health Center
- Graduate in Nursing from Rey Juan Carlos University
- University Specialist Out-Patient Emergency Nursing, University Rey Juan Carlos, Alcorcón
- Postgraduate Diploma in Physical Activity and Sport Nurses from the Complutense University of Madrid

Ms. Amores Ordóñez, Cristina

- Primary Care Nurse at the Santa Isabel Health Center
- Nurse in the Traumatology and Geriatrics Unit, Severo Ochoa University Hospital
- Nurse in the Psychiatry and Eating Disorders Unit, Quirón Madrid Hospital
- Diploma in Nursing, Francisco de Vitoria University
- Expert in International Cooperation and Health Promotion, Francisco de Vitoria University
- Expert in Family and Community Nursing Updates at the Universidad Autónoma de Madrid

Ms. Somoza Jiménez, Isabel

- Primary Care Nurse
- Degree in Nursing, CEU San Pablo University
- Postgraduate Diploma in Emotional Development and Parenting by La Catholic University of Avila
- University Expert in Nursing Processes and Interventions for Pediatric Patients in Common Hospitalization Situations, Catholic University of Avila
- Course in Leadership of the future: Advanced Practice Nursing
- Certification for indication, use and authorization of dispensing of drugs and medical devices for nursing professionals
- Course in Nursing Clinical Electrocardiography

Dr. Pérez Morales, Luis Miguel

- Family Physician, Primary Care Center of Arucas (Gran Canaria, Canary Islands)
- President and Professor of the Canary Society of Ultrasound (SOCANECO) and Director of its Annual Symposium
- Professor on the Master's Degree in Clinical Ultrasound for Emergency and Critical Care at the CEU Cardenal Herrera University
- Expert in Thoracic Ultrasound by the University of Barcelona
- Expert in Clinical Abdominal and Musculoskeletal Ultrasound for Emergencies and Critical Care by the University CEU Cardenal Herrera
- Diploma of the Curs d'Ecografia en Atenció Primària by the University Rovira i Virgili from the Institut Catalá de la Salut

08

Certificate

The Advanced Master's Degree in Intensive Care Unit Nursing guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This private qualification will allow you to obtain a **Advanced Master's Degree in Intensive Care Unit Nursing** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

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

TECH is a member of the National League for Nursing (NLN), the world's oldest and largest nursing association, and is an international benchmark for hospitals, research centres and universities. As a member, TECH offers students multiple opportunities for growth through teaching materials, contact with healthcare leaders and internships that will give students greater professional experience.

TECH is a member of:

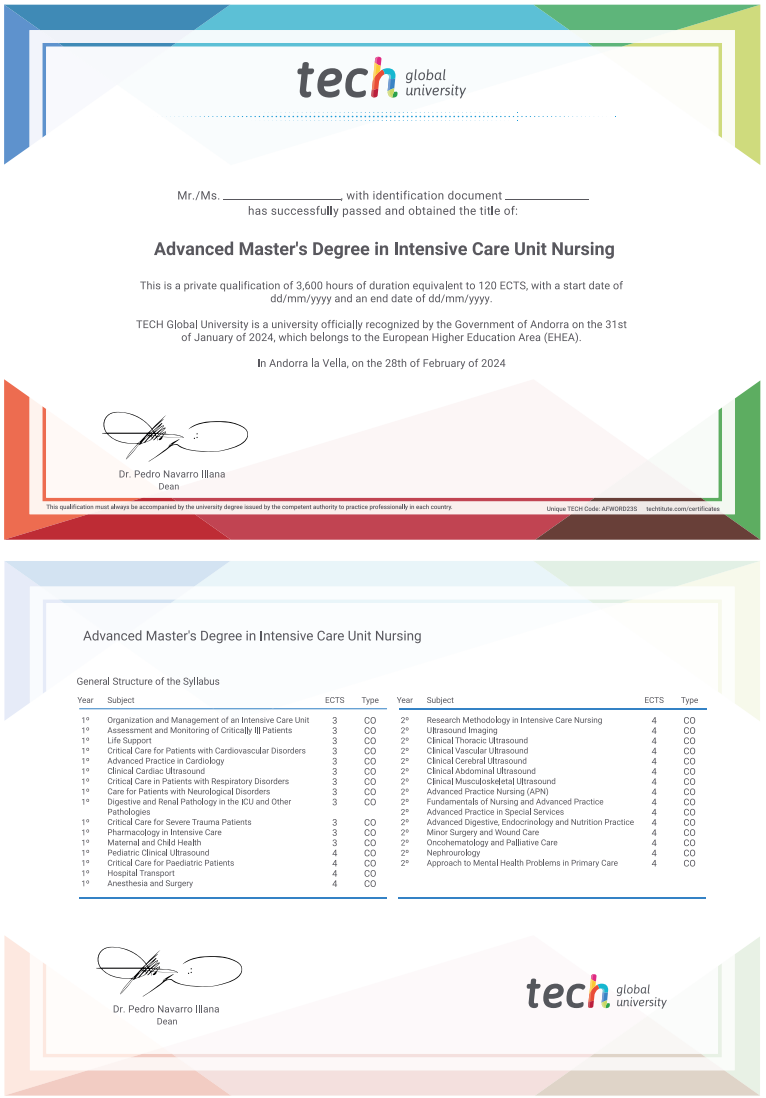
National League for Nursing

Title: **Advanced Master's Degree in Intensive Care Unit Nursing**

Modality: **online**

Duration: **2 years**

Accreditation: **120 ECTS**



tech global university

Mr./Ms. _____ with identification document _____
has successfully passed and obtained the title of:

Advanced Master's Degree in Intensive Care Unit Nursing

This is a private qualification of 3,600 hours of duration equivalent to 120 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.

Unique TECH Code: AFWQR023S techtitute.com/certificates

Advanced Master's Degree in Intensive Care Unit Nursing

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Organization and Management of an Intensive Care Unit	3	CO
1º	Assessment and Monitoring of Critically Ill Patients	3	CO
1º	Life Support	3	CO
1º	Critical Care for Patients with Cardiovascular Disorders	3	CO
1º	Advanced Practice in Cardiology	3	CO
1º	Clinical Cardiac Ultrasound	3	CO
1º	Critical Care in Patients with Respiratory Disorders	3	CO
1º	Care for Patients with Neurological Disorders	3	CO
1º	Digestive and Renal Pathology in the ICU and Other Pathologies	3	CO
1º	Critical Care for Severe Trauma Patients	3	CO
1º	Pharmacology in Intensive Care	3	CO
1º	Maternal and Child Health	3	CO
1º	Pediatric Clinical Ultrasound	4	CO
1º	Critical Care for Paediatric Patients	4	CO
1º	Hospital Transport	4	CO
1º	Anesthesia and Surgery	4	CO
2º	Research Methodology in Intensive Care Nursing	4	CO
2º	Ultrasound Imaging	4	CO
2º	Clinical Thoracic Ultrasound	4	CO
2º	Clinical Vascular Ultrasound	4	CO
2º	Clinical Cerebral Ultrasound	4	CO
2º	Clinical Abdominal Ultrasound	4	CO
2º	Clinical Musculoskeletal Ultrasound	4	CO
2º	Advanced Practice Nursing (APN)	4	CO
2º	Fundamentals of Nursing and Advanced Practice	4	CO
2º	Advanced Practice in Special Services	4	CO
2º	Advanced Digestive, Endocrinology and Nutrition Practice	4	CO
2º	Minor Surgery and Wound Care	4	CO
2º	Oncohematology and Palliative Care	4	CO
2º	Nephrourology	4	CO
2º	Approach to Mental Health Problems in Primary Care	4	CO

Dr. Pedro Navarro Illana
Dean

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*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.

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Advanced Master's Degree

Intensive Care Unit Nursing

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Global University**
- Accreditation: **120 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Advanced Master's Degree

Intensive Care Unit Nursing

Accreditation/Membership

National League for Nursing

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