



## Postgraduate Diploma

Neonatal Cardiac and Respiratory Pathology Care for Nursing

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

We bsite: www.techtitute.com/in/nursing/postgraduate-diploma/postgraduate-diploma-neonatal-cardiac-respiratory-pathology-care-nursing

# Index

> 06 Certificate

> > p. 32





### tech 06 | Introduction

Neonatology is a discipline in constant evolution, which is highly dependent on technology and new pharmacological treatments, but this context makes the updating of the procedures performed by professionals in neonatal critical care of utmost importance to maintain the provision of care based on the latest scientific evidence and to ensure the safety of the baby. The most frequent pathologies to be treated in the NICU, besides being the most relevant due to the vital commitment they have on the newborn, are cardiac and respiratory pathologies.

This program includes the most relevant aspects about the admission of the newborn in the neonatology unit or NICU, the knowledge and management of respiratory and cardiac pathology, as well as the medical-legal aspects in neonatology.

The Postgraduate Diploma in Neonatal Cardiac and Respiratory Pathology Care for Nursing allows, in a practical way, to achieve this update of the most used procedures to contribute with quality and confidence to the recovery of neonates, improve their prognosis and avoid the sequelae of severe pathology.

This Postgraduate Diploma in Neonatal Cardiac and Respiratory Pathology Care for Nursing contains the most complete and up-to-date scientific program on the market. The most important features include:

- Clinical cases presented by experts in the different specialties. 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
- New developments in nursing care for the main cardiac and respiratory pathologies in the newborn patient
- Presentation of practical workshops on procedures, nursing care and diagnosis and treatment techniques
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- Practical guidelines on cardiac and respiratory pathologies. These guides follow the scientific and pedagogical criteria of the main scientific reference
- All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection



Improve the care of your newborn patients with the program offered in this Postgraduate Diploma in Neonatal Cardiac and Respiratory Pathology Care for Nursing"



This Postgraduate Diploma may be the best investment you can make when selecting a refresher program, for two reasons: in addition to updating your knowledge in Neonatal Cardiac and Respiratory Pathology Care for Nursing you will obtain a qualification endorsed by TECH Technological University"

Its teaching staff includes renowned specialists in the field of neonatology, who bring the program their work experience in the country's leading medical centres.

Thanks to its multimedia content developed with the latest educational technology, they will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to prepare for in real situations.

This program is designed around Problem-Based Learning, whereby the nursing professional must try to solve various typical professional practice situations that arise during the program. In order to do this, the nursing professional will be assisted by an innovative interactive video system, created by renowned and experienced experts in treating critical neonatal patients and with extensive teaching experience.

Increase your professional possibilities by studying the Postgraduate Diploma in Neonatal Cardiac and Respiratory Pathology Care for Nursing.

It includes clinical cases in a real simulation environment to bring the development of the program as close as possible to everyday practice.





### tech 10 | Objectives



### **General objectives**

- Provide nursing care oriented to satisfying the needs of newborns with health problems as well as preventing complications, all while guaranteeing safe and quality practice
- Provide comprehensive newborn care from an ethical and legal perspective
- Decide effectively and efficiently the different procedures, diagnostic tests and treatments derived from the different health problems in the newborn taking into account the different levels of care
- Assess the needs of the newborn and provide comprehensive care during the surgical process, in order to optimize their recovery and to identify, intervene and/or refer them as a result of possible complications
- Update the indication of medical devices and/or drugs, evaluating the expected benefits and associated risks
- Develop the ability to apply theoretical knowledge in daily practice





### Objectives | 11 tech



### **Specific objectives**

#### Module 1. Important Aspects of Neonatology

- Categorise neonatal stages, as well as neonatal stages by gestational age and neonatal stages by weight at birth
- Determine the differences which exist in the pediatric age group between a newborn, a child and an adolescent
- Revise the anatomical and physiological characteristics of a normal newborn
- Establish the techniques for measuring the somatometry of a newborn, as well as its morphological and physiological characteristics
- Assess the complete examination, sequence of physical examination and complete
  physical examination of the newborn, focusing primarily on the head and neck region,
  trunk region and extremities region
- Describe the process of a complete neurological examination on a newborn
- Evaluate the structure and organization of a Neonatology Service, as well as its location, the necessary equipment and materials; and the necessary human resources
- Acquire up-to-date knowledge of the arrival of a newborn in the neonatal ward, the admission criteria, its objectives and the necessary nursing interventions
- Incorporate new techniques in the physical examination of a newborn on its arrival in the neonatal ward

### tech 12 | Objectives

#### Module 2. Admission of a Newborn in the Neonatal Ward or in the NICU

- Determine how to structure a neonatal intensive care unit (NICU), as well as the calculation and arrangement of the cribs, the necessary physical space needed, the necessary equipment and materials; and the necessary human resources
- Identify the profiles and roles of the "nursing team" as well as its operating system: Primary Nursing
- Describe the guidelines for drug administration in neonatology
- Establish the criteria and objectives for admission of a newborn to the NICU; as well as the necessary nursing interventions
- Identify and classify the types of neonatal transport, its objectives and its purpose
- Select the necessary team and equipment to provide appropriate neonatal transport
- Acquire up-to-date knowledge of the therapeutic measures for treating pain in newborns, as well as how to manage the pain in some of the procedures in the NICU

## Module 3. Respiratory Pathophysiology and Respiratory Disorders in Neonatology

- Identify the modalities of respiratory assistance
- Revise the process of lung development, lung embryology and lung anatomy
- Review the respiratory physiology of a newborn
- Assess the respiratory problems of a newborn
- Establish the involvement of nursing staff in treating a newborn with a respiratory disorder
- Describe the mechanical ventilation and non-invasive ventilation techniques, as well
  as the nursing care involved in mechanical ventilation and the ventilation modes
- Incorporate endotracheal intubation and extubation techniques
- Acquire up-to-date knowledge of the cricothyroidotomy or coniotomy procedures
- Describe the procedure to perform a tracheotomy







#### Module 4. Cardiac Disorders and Congenital Heart Disease in Neonatology

- Gain up-to-date knowledge of the cardiac massage technique
- Identify the differences in the response to a neonatal cardiopulmonary arrest and one in an older pedriatic patient
- Revise the general aspects of the cardiovascular system, embryology and cardiac anatomy
- Distinguish between the different types of congenital cardiopathies
- Evaluate the involvement of the nursing professional in treating a newborn with congenital cardiopathy
- Learn how to create a nursing care plan
- Gain an understanding of preoperative and postoperative care in cardiac surgery
- Gain up-to-date knowledge of the nursing procedure for addressing bacterial endocarditis



Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"





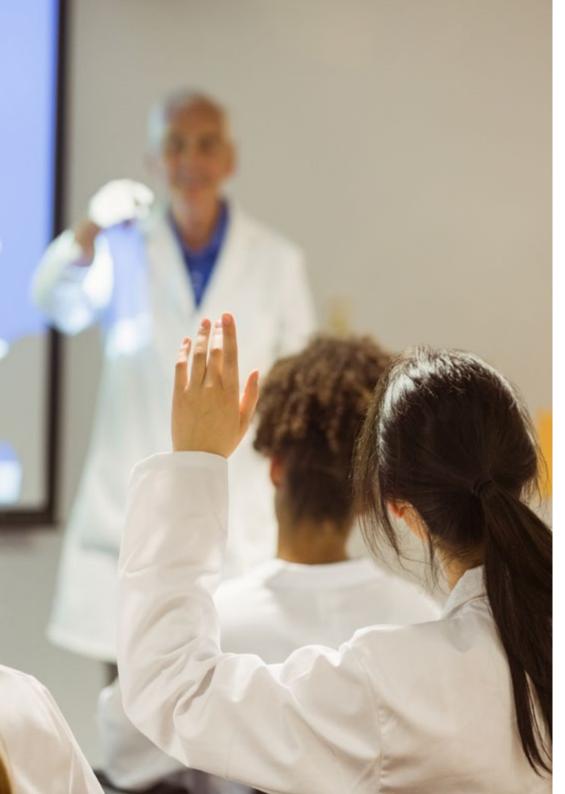
### tech 16 | Course Management

#### Management



#### Dr. López Ruiz, María Amparo

- University Professor in Nursing, Medicine and Pharmacy of the Department of Biomedical Sciences at CEU Cardenal Herrera University
- Degree in Medicine and Surgery from the University of Valencia
- Doctor of Medicine Cum Laude from the CEU Cardenal Herrera University. Thesis: Analysis of Medication in Pediatric Population
   Who Attend the Emergency Department
- University expert in Neonatology: "Care in the Preterm Newborn."
- Professor of the Online Master's in Emergency Pediatrics for Nursing, CEU Cardenal Herrera University
- Professor of the Master's Degree in Advanced Aesthetic and Laser Techniques at CEU Cardenal Herrera University and NISA Hospitals Foundation
- Postgraduate course coordinator: "First Aid, Cardiopulmonary Resuscitation and Emergency Situations Course". CEU Cardenal Herrera University, Moncada
- Erasmus Coordinator for Medicine at the University CEU Cardenal Herrera
- NESTLÉ Award for Best Oral Communication, XXIV National Congress of the Spanish Society of Outpatient and Primary Care Pediatrics for: "Analysis of the use of Analgesic-Antipyretics in pediatric patients attending an emergency department"



### Course Management | 17 tech

#### **Professors**

#### Dr. López Peña, Rafael

- Pediatrician, specialist in PICU and NICU
- Degree in Medicine and Surgery from the University of Valencia
- Doctor of Medicine "Cum Laude" from the University of Valencia
- Postgraduate Diploma in Neonatology

#### Dr. Rojas Otero, Lucila

- Pediatrician, specialist in PICU and NICU
- Degree in Medicine and Surgery from the University of Zaragoza
- Postgraduate Diploma in Neonatology

#### Dr. Moreno, Lucrecia

- Vice Dean of Pharmacy, Cardenal Herrera University CEU
- Degree in Pharmacy from the University of Valencia
- Doctor of Medicine "Cum Laude" from the University of Valencia
- PhD in Pharmacy from the Cardenal Herrera University CEU

#### Dr. Sanahuja Santafé, Maria Amparo

- Degree in Pharmacy from the University of Valencia
- University Professor at CEU Cardenal Herrera University
- Doctor of Medicine "Cum Laude" from the University of Valencia

### tech 18 | Course Management

#### Ms. Silvestre Castelló, Dolores

- Associate Professor of Nutrition and Bromatology at CEU Cardenal Herrera University
- Degree in Chemistry from the University of Valencia
- Doctor of Chemical Sciences "Cum Laude" from the University of Valencia
- Diploma in Food Technology Spanish National Research Council (Consejo Superior Investigaciones Científicas)
- Postgraduate Degree in Nutrition, Dietetics and Diet Therapy, University of Navarra

#### Ms. Iranzo Cobo del Padro, Rosana

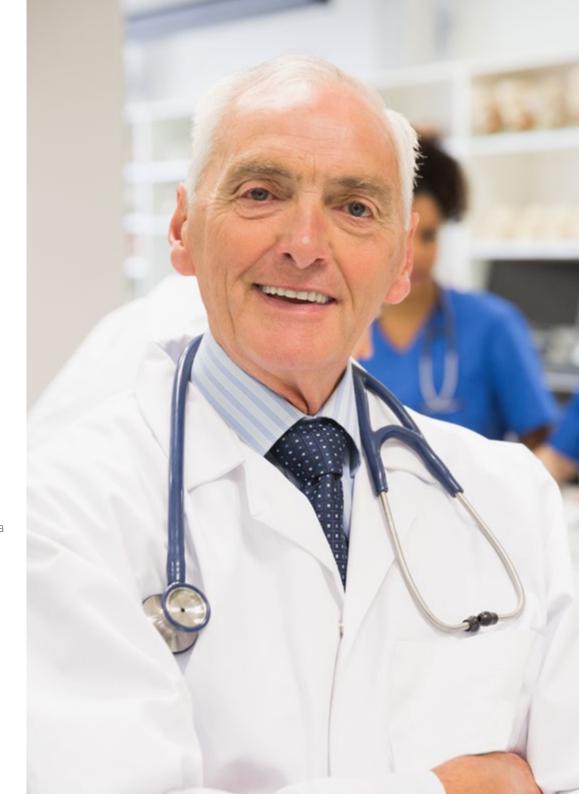
- Professor of the Degree in Nursing at the CEU Cardenal Herrera University
- Graduate in Nursing

#### Dr. Bendala Tufanisco, Elena

- Department of Biomedical Sciences of the Faculty of Health Sciences at CEU Cardenal Herrera University
- Degree in Medicine and Surgery from the University of Valencia
- Degree in Biology from the University of Valencia
- Doctor of Biochemistry and Molecular Biology "Cum Laude" from the University of Valencia

#### Ms. Roldán del Amo, Adela

- Pediatric Nurse in the NICU and PICU in the Emergency Department of the NISA 9 de Octubre Hospital (Valencia)
- Diploma in Nursing



#### Ms. Ribes Roldán, Sandra

- Emergency Nurse at NISA 9 de Octubre Hospital (Valencia)
- Degree in nursing

#### Ms. Alfaro Ramírez, Concepción

- Pediatric Nurse at UCIN and UCIP
- Diploma in Nursing
- Nursing Supervisor at NISA 9 de Octubre Hospital

#### Dr. Julve Chover, Natalia

- Attending Physician. Pediatrics and PICU-Neonatal Service, NISA
- Degree in Medicine and Surgery from the University of Valencia
- Doctor of Medicine "Cum Laude" from the University of Valencia
- Specialist in Child Neurology
- Postgraduate Diploma in Neonatology

#### Dr. Navarro Marí, Rosa María

- Pediatrician
- Attending Physician. Pediatrics and PICU-Neonatal Service, NISA
- Degree in Medicine and Surgery from the University of Valencia
- Postgraduate Diploma in Neonatology

#### Ms. Dobón García, Ana María

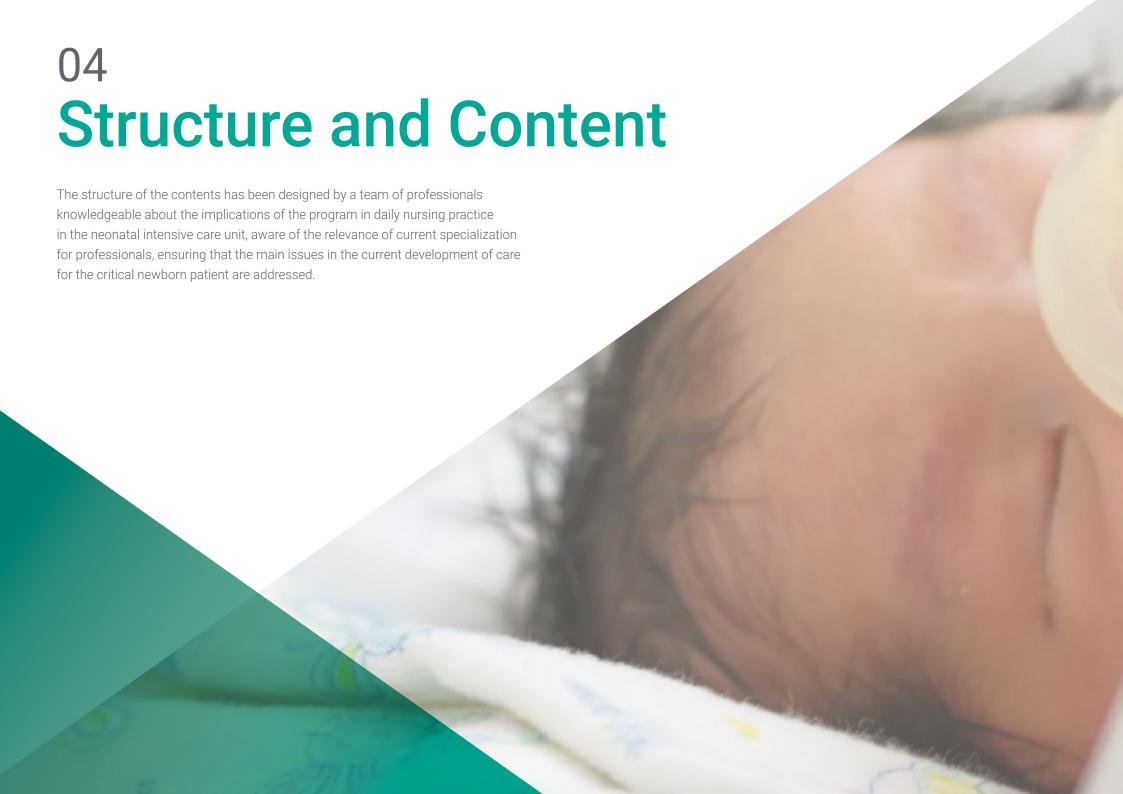
- Lawyer specializing in Medical and Health Law
- Degree in Law from the University of Valencia

#### Ms. Juan Hidalgo, Alicia

- University professor in the Psychology Faculty, University of Valencia
- Degree in Psychology from the University of Valencia
- Clinical Psychology

#### Mr. Martínez Dolz, Jesús

- Assistant Nurse in Pediatric and Neonatal Intensive Care Units in the city of Valencia in the following centres: Nisa 9 Octubre Hospital, Virgen del Consuelo Hospital, Clinical University Hospital and La Fe Polytechnic and University Hospital
- Degree in Nursing
- Specialist in Neonatal and Pediatric Nursing Care





### tech 22 | Structure and Content

#### Module 1. Important Aspects of Neonatology

- 1.1. Differences between Newborn, Child and Adolescent
- 1.2. Neonatal Stages
  - 1.2.1. Neonatal Stages at Gestational Age
  - 1.2.2. Neonatal Stages for Birthweight
  - 1.2.3. Premature Newborns
  - 1.2.4. Post-Term Newborn
- 1.3. Anatomical and Physiological Characteristics of the Normal Newborn
  - 1.3.1. Newborn Somatometry
  - 1.3.2. Morphological Characteristics
  - 1.3.3. Physiological Characteristics
- 1.4. Complete Physical Examination of the Newborn
  - 1.4.1. Physical Examination Process
  - 1.4.2. General Observation
  - 1.4.3. Head and Neck Region
  - 1.4.4. Torso Region
  - 1.4.5. Limb Region
  - 1.4.6. Neurological Examination
- 1.5. Structure and Organisation of the Neonatal Service
  - 1.5.1. Location of the Neonatology Service
  - 1.5.2. Equipment and Materials
  - 1.5.3. Human resources
  - 1.5.4. Concept of Neonatal Intensive Care Unit (NICU)
    - 1.5.4.1. Calculation and Layout of Cribs
    - 1.5.4.2. Physical Space in a Neonatal Intensive Care Unit
    - 1.5.4.3. Equipment and Material in a Neonatal Intensive Care Unit
    - 1.5.4.4. Human Resources in a Neonatal Intensive Care Unit
    - 1.5.4.5. Profiles and Roles: "Nursing Team"
    - 1.5.4.6. Operating System Primary Nursing

#### Module 2. Admission of a Newborn in the Neonatal Ward or in the NICU

- 2.1. Arrival of the Newborn (NB) in the Neonatal
  - 2.1.1. Admission Criteria
  - 2.1.2. Admission Objectives
  - 2.1.3. Nursing Interventions
  - 2.1.4. Physical Examination of the Newborn
- 2.2. Arrival of the Newborn (NB) in the NICU
  - 2.2.1. Admission Criteria
  - 2.2.2. Admission Objectives
  - 2.2.3. Nursing Interventions
  - 2.2.4. Physical Examination of the Newborn
- 2.3. Neonatal Transport
  - 2.3.1. Transfer of the Pregnant Woman
  - 2.3.2. Neonatal Transfer
  - 2.3.3. Neonatal Transport Team
  - 2.3.4. Neonatal Transport Equipment

#### Module 3. Respiratory Pathophysiology and Respiratory Disorders in Neonatology

- 3.1. Pulmonary Development
  - 3.1.1. Pulmonary Embryology
  - 3.1.2. Review of Pulmonary Anatomy
- 3.2. Respiratory Physiology
- 3.3. Newborn Respiratory Problems
- 3.4. Involvement of Nursing Staff in Treating a Newborn with a Respiratory Disorder
- 3.5. Mechanical Ventilation
  - 3.5.1. Nursing Care in Mechanical Ventilation
  - 3.5.2. Forms of Ventilation
    - 3.5.2.1. Non-Invasive Ventilation (NIV)
    - 3.5.2.2. Invasive Ventilation

- 3.6. Types of Materials for Administering Oxygen
- 3.7. Endotracheal Intubation and Extubation
  - 3.7.1. Endotracheal Intubation
  - 3.7.2. Extubation Process
- 3.8. Cricothyroidotomy or Coniotomy
- 3.9. Tracheotomy

#### Module 4. Cardiac Disorders and Congenital Heart Disease in Neonatology

- 4.1. General Aspects of the Cardiovascular System
  - 4.1.1. Cardiac Embryology
  - 4.1.2. Reminder of Cardiac Anatomy
- 4.2. Syndromic Classification of Congenital Heart Disease
  - 4.2.1. Cyanotic Congenital Heart Disease
  - 4.2.2. Congenital Heart Disease Without Cyanosis
  - 4.2.3. Congenital Heart Disease Leading to Cardiogenic Shock
- 4.3. "Getting to Know" Congenital Heart Disease
  - 4.3.1. Transposition of the Main Arteries
  - 4.3.2. Isolated Ventricular Inversion or Corrected Transposition of the Main Arteries
  - 4.3.3. Tetralogy of Fallot
  - 4.3.4. Hypoplastic Left Heart Syndrome
  - 4.3.5. Infradiaphragmatic Total Pulmonary Venous Drainage
  - 4.3.6. Interruption of the Aortic Arch
  - 4.3.7. Aortic Coarctation
  - 4.3.8. Aortic Stenosis
  - 4.3.9. Pulmonary Stenosis
  - 4.3.10. Ebstein Disease
  - 4.3.11. Complex Heart Disease with Heart Failure Without Pulmonary Stenosis
  - 4.3.12. Congenital Heart Diseases with Left-Right Short Circuits

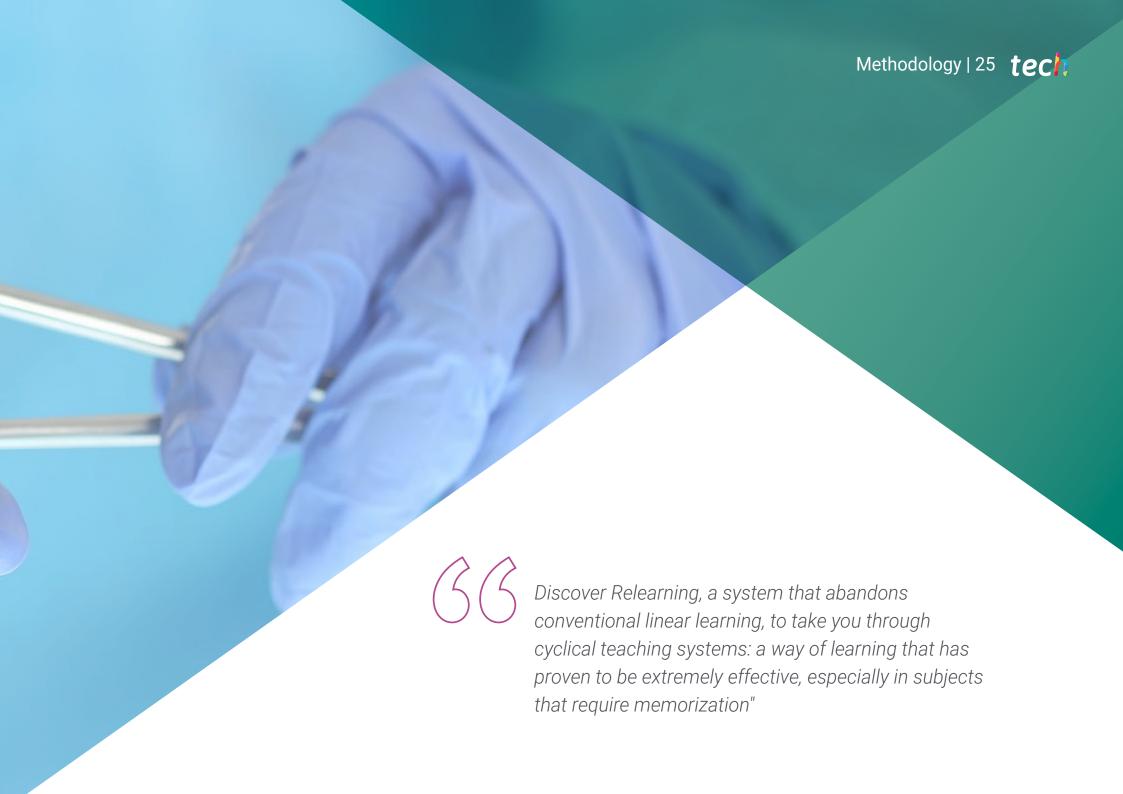
- 4.4. Nursing Care in Neonatal Heart Disease
  - 4.4.1. Evaluation and Interventions of the Nursing Staff in Treating a Patient with Congenital Heart Disease
  - 4.4.2. Nursing Care Plans
- 4.5. Preoperative and Postoperative Cardiac Surgery
  - 4.5.1. Preoperative Care
  - 4.5.2. Postoperative Care
  - 4.5.3. Bacterial Endocarditis





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

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

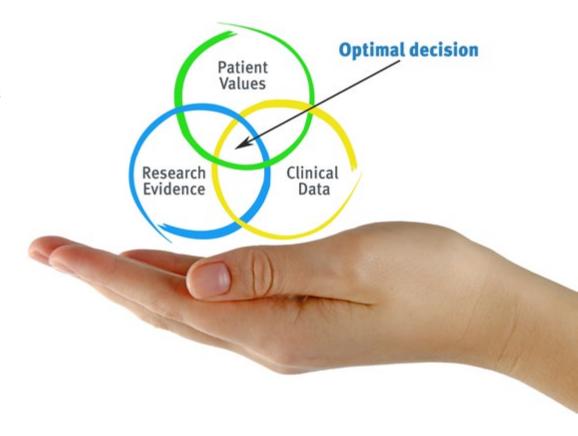


### tech 26 | Methodology

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

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

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



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



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

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

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





### Relearning Methodology

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

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

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

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



### Methodology | 29 tech

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

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

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

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

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

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



#### **Study Material**

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

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



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

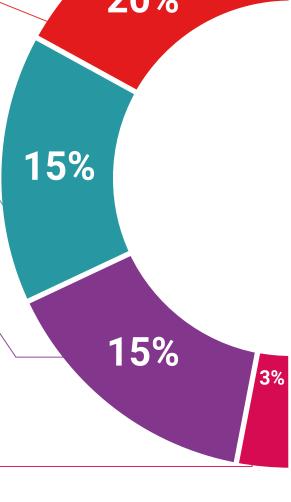
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch them as many times as you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



#### **Interactive Summaries**

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

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





#### **Additional Reading**

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



### **Expert-Led Case Studies and Case Analysis**

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



#### **Testing & Retesting**

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



#### Classes

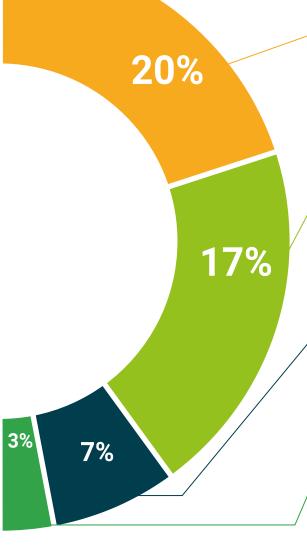
There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### **Quick Action Guides**

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.







### tech 34 | Certificate

This Postgraduate Diploma in Neonatal Cardiac and Respiratory Pathology Care for Nursing contains the most complete and up-to-date scientific program on the market.

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

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

Title: Postgraduate Diploma in Neonatal Cardiac and Respiratory Pathology Care for Nursing

Official No of hours: 475 h.

Endorsed by: Spanish Society of Intensive Care Nursing and Coronary Units.





For having passed and accredited the following program

#### POSTGRADUATE DIPLOMA

n

#### Neonatal Cardiac and Respiratory Pathology Care for Nursing

This is a qualification awarded by this University, equivalent to 475 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

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

nique TECH Code: AFWORD23S techtitute.com/cer

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

health confidence people

leducation information tutors
guarantee accreditation teaching
institutions technology learning



### Postgraduate Diploma Neonatal Cardiac and Respiratory Pathology

Care for Nursing

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

