

# Postgraduate Certificate Neonatal Pharmacology for Nursing



## Postgraduate Certificate Neonatal Pharmacology for Nursing

Course Modality: Online

Duration: 8 weeks

Certificate: TECH Technological University

Official N° of hours: 175 h.

Website: [www.techtute.com/in/nursing/postgraduate-certificate/neonatal-pharmacology-nursing](http://www.techtute.com/in/nursing/postgraduate-certificate/neonatal-pharmacology-nursing)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 18*

05

Methodology

---

*p. 22*

06

Certificate

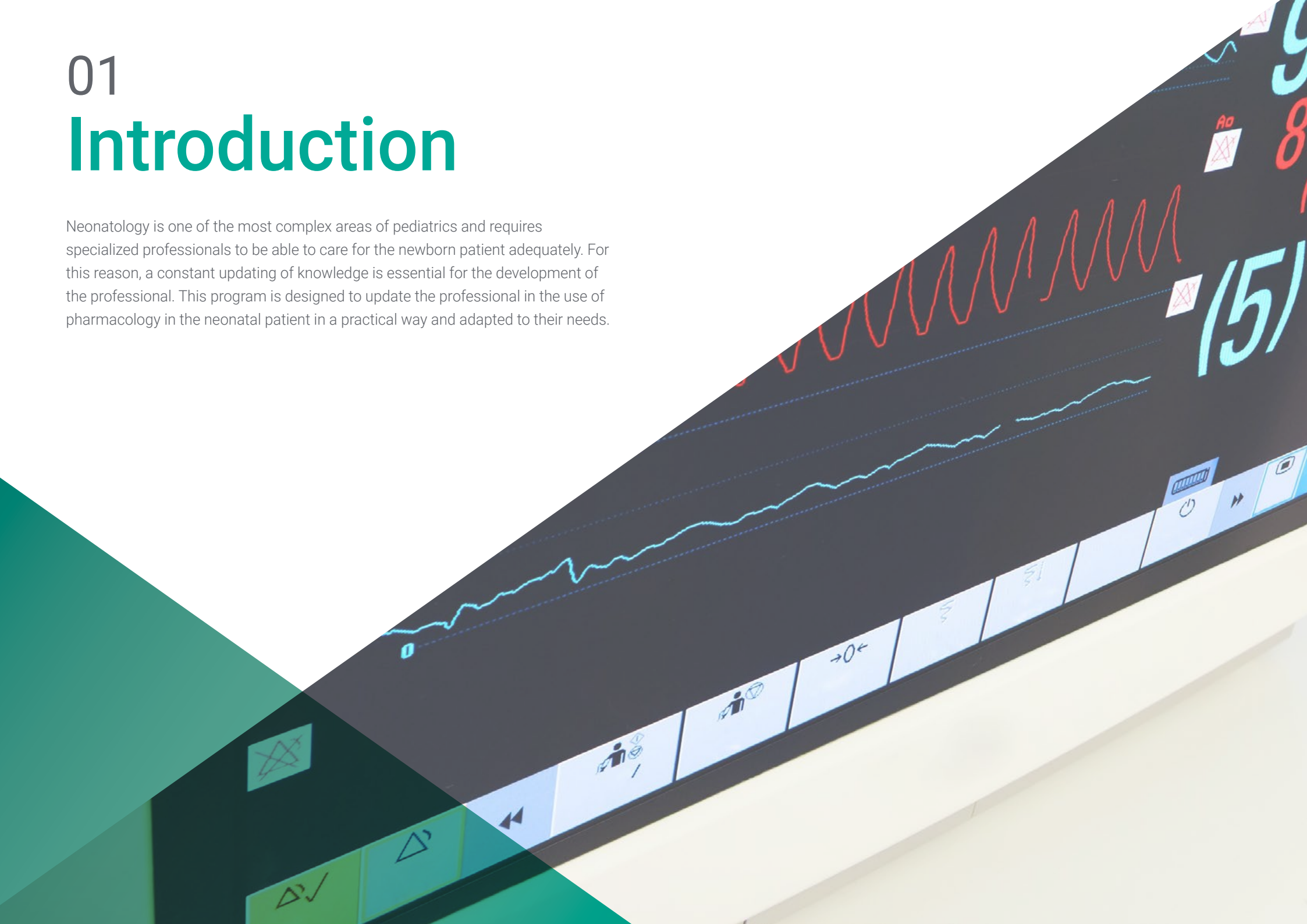
---

*p. 30*

01

# Introduction

Neonatology is one of the most complex areas of pediatrics and requires specialized professionals to be able to care for the newborn patient adequately. For this reason, a constant updating of knowledge is essential for the development of the professional. This program is designed to update the professional in the use of pharmacology in the neonatal patient in a practical way and adapted to their needs.





“

*With the Postgraduate Certificate in Neonatal Pharmacology for Nursing you have the opportunity to update your knowledge in a practical way and without renouncing to the maximum scientific rigor, to incorporate the latest advances in critical nursing care of the newborn"*



Neonatology is a discipline in constant evolution, which is highly dependent on technology and new pharmacological treatments. This context makes the updating of procedures in Neonatal Critical Care, both those performed in the Neonatal ICU and in other care settings outside the ICU (emergency units, primary care centers, etc.), of utmost importance to maintain the provision of care based on the latest scientific evidence and to ensure the safety of the baby.

This program includes the most important aspects of the use of pharmacology in the newborn patient, developing the appropriate nursing interventions in each case and describing drug interactions in common processes in the neonate. In addition, it presents an update on neonatal assessment and examination, NICU admission procedures, and nursing care.

This Postgraduate Certificate in Neonatal Pharmacology for Nursing is oriented to facilitate the updating of the most used procedures, in a practical way, to contribute with quality and safety to the recovery of the newborn, improve its prognosis and avoid the sequelae of severe pathology.

This **Postgraduate Certificate in Neonatal Pharmacology 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 and assessment of the critically ill newborn patient
- ◆ Includes drug interactions of the main drugs used in the NICU
- ◆ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ◆ 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 specialization offered by the Postgraduate Certificate in Neonatal Pharmacology for Nursing"*

“

*This Postgraduate Certificate is the best investment you can make when selecting a refresher program, for two reasons: in addition to updating your knowledge in Neonatal Pharmacology 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 to this program their work experience in international 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 train in real situations.

The design of this program is based on Problem-Based Learning, through which the nursing professional 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 developed by renowned experts in neonatal critical patient care and with extensive teaching experience.

*This course allows learning in simulated environments, which provide immersive education programmed to learn for real situations.*

*It includes clinical cases to bring the development of the program as close as possible to the reality of nursing care.*



# 02 Objectives

This Postgraduate Certificate is oriented towards effectively updating nurses' knowledge of the procedures for dealing with a newborn, in order to provide quality care based on the latest scientific evidence that guarantees patient safety.







“

*This refresher program will provide you with the skills to act safely in the provision of neonatal care, which will help you grow personally and professionally"*



## General Objective

- ♦ Allow the nursing professional to gain up-to-date knowledge of the procedures for optimal care of a newborn. This knowledge, alongside a current and evidence-based approach, should enable us to deal with the stabilisation, nursing diagnosis and care of newborns who usually require intensive care

“

*Make the most of this opportunity and take the step to get up to date on the latest developments in Neonatal Pharmacology for Nursing”*





## Specific Objectives

---

- ♦ Categorize 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
- ♦ Incorporate the basic principles of newborn sedation, anesthetic drugs and sedative/hypnotics into nursing
- ♦ Incorporate the principles of drug administration in the Neonatal Unit, as well as the use of the different routes: enteral, rectal, intramuscular, subcutaneous and intravenous routes, into nursing practice
- ♦ Differentiate the specific ways of administering drugs, the necessary equipment and its procedure
- ♦ Incorporate the different dosage guidelines applicable to nursing practice
- ♦ Gain up-to-date knowledge of the different drug administration routes and their characteristics
- ♦ Identify excipients used in neonatal formulations
- ♦ Gain up-to-date knowledge of the different therapeutic guidelines applicable to neonatology
- ♦ Classify and describe drug interactions, the different types of interactions that exist and how to prevent the risk of interactions
- ♦ Gain up-to-date knowledge on the use of drugs in neonatology



03

# Course Management

The program's teaching staff includes renowned nursing professionals, who carry out their clinical practice in leading hospital centers, and who bring the experience of their work to this Postgraduate Diploma. In addition, medical specialists who are members of international scientific societies participate in its design and preparation, complementing the teaching staff in an interdisciplinary manner.





“

*Learn from leading professionals the latest advances in Neonatal Pharmacology for Nursing”*



## 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"



## 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

### Ms. Iranzo Cobo del Cabo, 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

**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

**Ms. Alfaro Ramírez, Concepción**

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





**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

**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



04

# Structure and Content

The structure of the contents has been designed by a team of professionals who recognise the importance of training for daily nursing practice in the NICU and are aware of the relevance of current training for professionals. This program ensures that the main issues in the current development of critical newborn patients are addressed.







“

*This Postgraduate Certificate in Neonatal Pharmacology for Nursing contains the most complete and up-to-date scientific program on the market”*

## Module 1. Important Aspects of Neonatology

- 1.1. Differences between Newborn, Child and Adolescent
- 1.2. Neonatal Stages
  - 1.2.1. Neonatal Stages by Gestational Age
  - 1.2.2. Neonatal Stages by Birth Weight
  - 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 Organization 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. Pharmacology in Neonatology.

- 2.1. General Aspects of Neonatal Pharmacology
- 2.2. Modifications in the Reaction of Drugs in Newborns
- 2.3. Pharmacokinetics in Neonatology
  - 2.3.1. Absorption of Drugs
  - 2.3.2. Distribution of Drugs
  - 2.3.3. Binding of Drug to Plasma Proteins According to Development
  - 2.3.4. Metabolism or Biotransformation of Drugs in the Child
  - 2.3.5. Excretion of Drugs in Neonatology
- 2.4. Pharmacodynamics in Neonatology
- 2.5. Dosage Guidelines
  - 2.5.1. Excipients Used in Neonatal Formulations
  - 2.5.2. Therapeutic Guidelines
- 2.6. Drug Interactions
  - 2.6.1. Types of Pharmacological Interactions
  - 2.6.2. Interaction Risk Prevention
- 2.7. Use of Drugs in Neonatology

“ *A unique, key, and decisive educational experience to boost your professional development* ”



05

# Methodology

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.





“

*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*



## At TECH Nursing School we use the Case Method

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

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



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

“

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

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

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



## Relearning Methodology

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.*



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

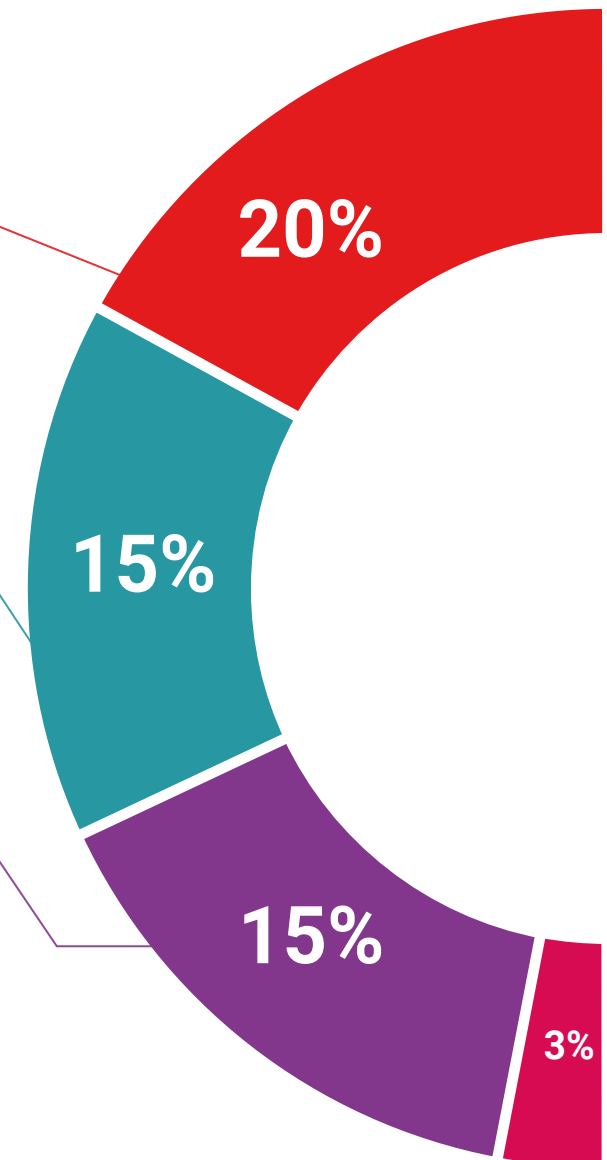
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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.



# 06 Certificate

The Postgraduate Certificate in Neonatal Pharmacology for Nursing guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





“

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

This **Postgraduate Certificate in Neonatal Pharmacology 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 Certificate** issued by **TECH Technological University** via tracked delivery\*.

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

Title: **Postgraduate Certificate in Neonatal Pharmacology for Nursing**

Official N° of Hours: **175 h.**



\*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.

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present quality  
online training  
development languages  
classroom



**Postgraduate Certificate**  
Neonatal Pharmacology  
for Nursing

Course Modality: **Online**

Duration: **8 weeks**

Certificate: **TECH Technological University**

Official N° of hours: **175 h.**



# Postgraduate Certificate Neonatal Pharmacology for Nursing

