



## Postgraduate Diploma

Neonatal Intensive Care Unit for Nurses

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/nursing/us/postgraduate-diploma/postgraduate-diploma-neonatal-intensive-care-unit-nurses

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# 01 Introduction

Neonatology is one of the most complex and specific areas of pediatrics, and requires specialized professionals to properly care for these patients, so constant updating is essential. This Postgraduate Diploma is designed to update the nursing professional in the latest scientific evidence, so that he/she can develop their activity in the neonatal intensive care unit.



## tech 06 | Introduction

Neonatology is a discipline in constant evolution, which is highly dependent on technology and new pharmacological treatments. This context makes the updating of care procedures in the neonatal intensive care unit of paramount importance to maintain care based on the latest scientific evidence and to ensure the safety of the infant.

This course includes the most relevant topics about the organization of a Neonatology Service, as well as admission procedures, admission, application of neonatal resuscitation techniques if necessary, as well as knowledge and management of drug administration, principles of drug administration and vascular access in neonatology.

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

In addition, it will facilitate the incorporation to the labor market in this field, due to the need for nursing professionals trained in the care of the critical newborn in neonatal intensive care units.

Improve the care of your newborn patients with the training offered by the Postgraduate Diploma in Neonatal Intensive Care Unit for Nurses"

This **Postgraduate Diploma in the Neonatal Intensive Care Unit for Nurses** contains the most complete and up to date scientific program on the market. Development of clinical cases presented by experts in the different areas of multidisciplinary knowledge.

- Development of clinical cases presented by experts in the different specialties. The graphic, schematic, and eminently practical contents of which they are composed provide scientific and practical information on the disciplines that are essential for professional practice.
- New developments in nursing care of the critically ill newborn patient in neonatal intensive care units.
- Presentation of practical workshops on procedures, nursing care and diagnosis and treatment techniques.
- Algorithm-based interactive learning system for decision-making in the presented clinical situations
- Practical guides on different pathologies. These guides follow the scientific and pedagogical criteria of the main scientific reference societies.
- All 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.

### Introduction | 07 tech



This Postgraduate Diploma may be the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in neonatology, you will obtain a Postgraduate Diploma from TECH Technological University"

Its teaching staff includes specialists of recognized prestige in the field of neonatology, who bring to this training the experience of their work in the main health centers in the country.

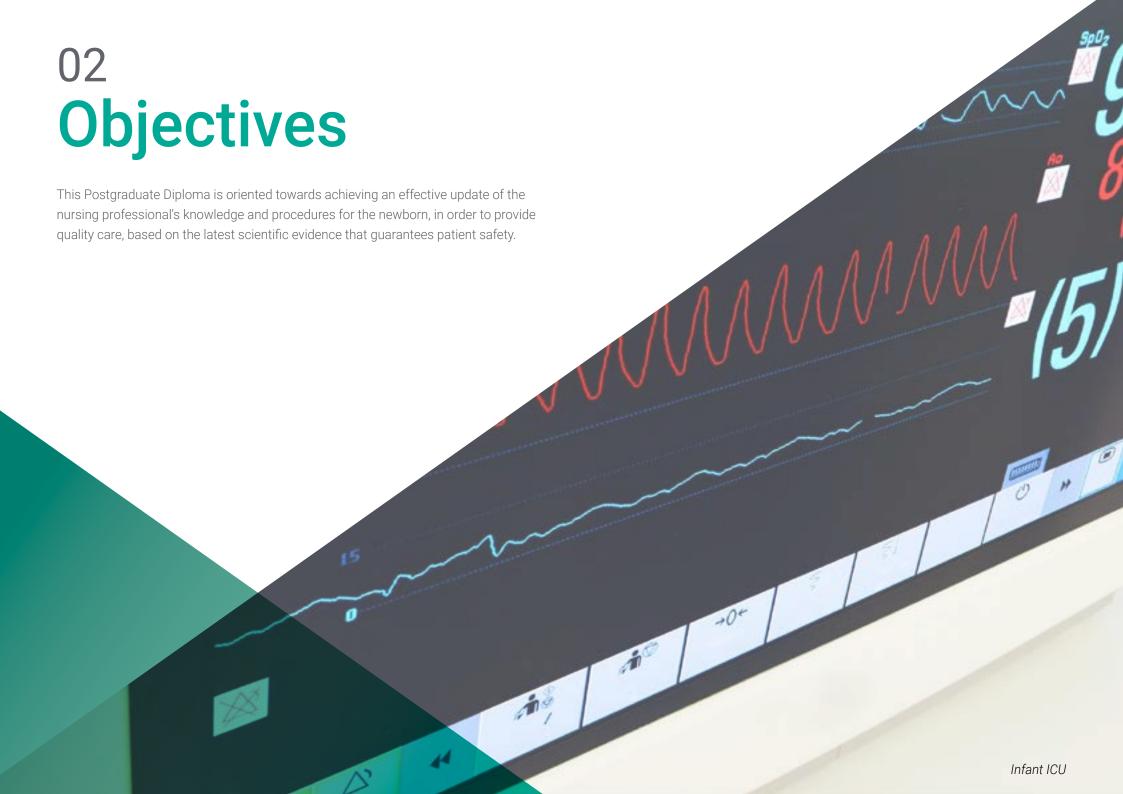
The multimedia content developed with the latest educational technology will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive training program to train in real situations.

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 course. 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 career opportunities by taking the Postgraduate Diploma in Neonatal Intensive Care Unit for Nurses.

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







## tech 10 | Objectives



### **General Objectives**

- Manage nursing care oriented to the satisfaction of the needs derived from the newborn's health problems and the prevention of complications, guaranteeing a 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.
- Update comprehensive care of the neonate with a surgical process to assist in the optimal restoration of health and to identify, intervene and/or refer for possible complications.
- Update the use and indication of medical devices and/or drugs, evaluating the expected benefits and associated risks.



#### **Specific Objectives**

- Evaluate how a Neonatology Service is structured and organized, as well as its location, the necessary equipment and materials, and the necessary human resources.
- Describe how a Neonatal Intensive Care Unit (NICU) is structured, as well as the calculation and layout of cribs, the physical space required, the necessary equipment and materials, and the necessary human resources.
- Define the profiles and positions of the "nursing team" as well as its operating system: "Primary Nursing"





- Acquire the technical knowledge to practice neonatal resuscitation, assessing neonatal risk factors, as well as general measures in the moments prior to delivery.
- Learn how a resuscitation team is formed, as well as the equipment necessary to perform neonatal resuscitation.
- Review resuscitation procedures.
- Describe respiratory support modalities.
- Gain up-to-date knowledge of cardiac massage technique.
- Update medication administration processes in neonatology.
- Update the procedures for action in the event of neonatal cardiorespiratory arrest.
- Identify special resuscitation situations as well as the basic principles for a successful resuscitation.
- Assess the possible complications that may arise during neonatal resuscitation.
- Interpret how the newborn should be received in the neonatal nursery, the admission criteria, its objectives and the necessary nursing interventions.
- Define the technique for the physical examination of the newborn upon arrival in the neonatal ward.
- Understand the reception of the newborn in the NICU, the admission criteria, its objectives and the necessary nursing interventions.
- Classify the criteria and objectives for admission of a neonate to the NICU; as well as the necessary nursing interventions.
- Evaluate the technique of physical examination of the newborn upon arrival in the NICU.
- Organize the types of neonatal transfers, their objectives and purpose.
- Differentiate the equipment necessary to perform an adequate neonatal transfer.

- Update the generalities in neonatal pharmacology, modifications in drug response in neonates, pharmacokinetics and pharmacodynamics in neonatology.
- Distinguish between the different dosage guidelines applicable.
- Differentiate between the different routes of administration.
- Explain the main characteristics and use of the excipients used in newborn formulations.
- Contrast the different therapeutic guidelines applicable in neonatology.
- Interpret drug-drug interactions, as well as the different types of drug-drug interactions and the prevention of the risk of interactions.
- Gain up-to-date knowledge on the use of drugs in neonatology.
- Apply the principles of drug administration in the Neonatology Unit, as well as the use of the different routes: enteral, rectal, intramuscular, subcutaneous and intravenous routes.
- Describe the specific forms of drug administration, the necessary equipment and its procedure.
- Examine the techniques necessary for the maintenance of the IV, the removal of the IV and the occurrence of possible complications.
- Record precautions, contraindications, as well as the occurrence of possible complications that may arise with specific forms of drug administration.
- Acquire the technical knowledge on how to proceed to cannulate the umbilical artery and vein of the newborn.
- · Assess the contraindications and the complications of umbilical cannulation.
- Establish the procedure on how to perform catheter removal, the precautions to be taken, contraindications and complications.





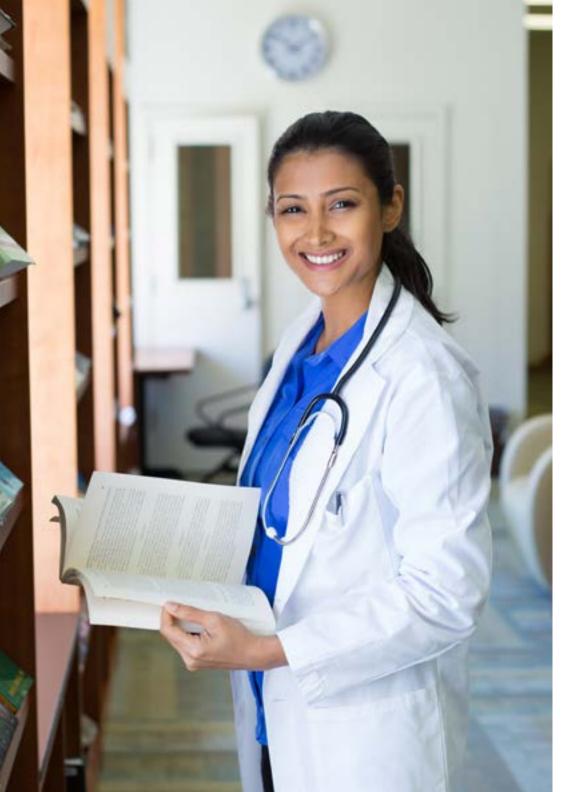
## tech 14 | Course Management

#### Management



#### Dr. López Ruiz, María Amparo

- Degree in Medicine and Surgery from the University of Valencia
- Doctor of Medicine "Cum Laude" from the University CEU Cardenal Herrera with the Thesis: "Analysis of medication in pediatric population attending an Emergency Department"
- University expert in Neonatology: "Care in the Premature Newborn" 30 ECTS.
- University Professor of Nursing, Medicine and Pharmacy. Faculty of Biomedical Sciences. CEU Cardenal Herrera University Moncada (Valencia)
- Professor of the online Master in Pediatric Emergencies for Nurses. CEU Cardenal Herrera University -- Health Class
- Professor of the Professional Master's Degree in Advanced Esthetic and Laser Techniques. CEU Cardenal Herrera University Moncada (Valencia) and NISA Hospitals Foundation (Valencia)
- Postgraduate course director: "Diploma in neonatal nursing and neonatal intensive care" CEU Cardenal Herrera University Moncada (Valencia) and NISA Hospitals Foundation (Valencia). Course 2014, 2015, 2016
- Postgraduate course coordinator: "First Aid, Cardiopulmonary Resuscitation and Emergency Situations Course" CEU Cardenal Herrera University Moncada (Valencia)
- Erasmus coordinator for Medicine. CEU Cardenal Herrera University since 2014
- Personal tutor for international medical students. CEU Cardenal Herrera University Moncada (Valencia). Course 2014 2015
- Entrepreneurship tutor for Medicine. CEU Cardenal Herrera University Moncada (Valencia). Course 2014 2015
- Practice coordinator for Medicine. CEU Cardenal Herrera University Moncada (Valencia). Course 2015 2016
- Coordinator for Medicine. CEU Cardenal Herrera University Moncada (Valencia). Course 2016 2017
- NESTLÉ Award for best Oral Communication, XXIV National Congress of the Spanish Society of Outpatient Pediatrics and Primary
  Care; held in Murcia, from 14 to 17 October 2010; for the work: "Analysis of the use of Analgesic-Antipyretics in pediatric patients
  attending an emergency department"



## Course Management | 15 tech

#### **Professors**

#### Dr. López Peña, Rafael

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

#### Dr. Rojas Otero, Lucila

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

#### Dr. Moreno, Lucrecia

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

#### Dr. Sanahuja Santafé, Mª Amparo

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

## tech 16 | Course Management

#### Mrs. Silvestre Castelló, Dolores

- Degree in Chemistry from the University of Valencia
- Associate Professor of Nutrition and Bromatology. Cardenal Herrera University CEU
- 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).

#### Mrs. Iranzo Cobo del Cabo, Rosana

- Degree in Nursing
- University Professor- Nursing Degree. Cardenal Herrera University CEU.

#### Dr. Bendala Tufanisco, Elena

- 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.
- Faculty of Biomedical Sciences. Faculty of Health Sciences. Cardenal Herrera University CEU

#### Mrs. Roldán del Amo, Adela

- Diploma in Nursing.
- Pediatric nurse. NICU and PICU. Accident and Emergency Care
- 9 de Octubre NISA Hospital. Valencia



#### Mrs. Ribes Roldán, Sandra

- Degree in Nursing
- · Nurse in Accident and Emergency department.
- 9 de Octubre NISA Hospital. Valencia

#### Mrs. Alfaro Ramírez, Concepción

- · Diploma in Nursing.
- Pediatric nurse. NICU and PICU
- Nursing supervisor. 9 de Octubre NISA Hospital. Valencia

#### Dr. Julve Chover, Natalia

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

#### Dr. Navarro Marí, Rosa María

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

#### Mrs. Dobón García, Ana María

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

#### Mrs. Juan Hidalgo, Alicia

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







### tech 20 | Structure and Content

#### Module 1. Structure and Organization of a Neonatology Service

- 1.1. Location of the Neonatology Service.
- 1.2. Equipment and Materials.
- 1.3. Human Resources
- 1.4. Concept of Neonatal Intensive Care Unit (NICU).
  - 1.4.1. Calculation and Layout of Cribs.
  - 1.4.2. Physical Space in a Neonatal Intensive Care Unit.
  - 1.4.3. Equipment and Material in a Neonatal Intensive Care Unit.
  - 1.4.4. Human resources in a Neonatal Intensive Care Unit.
  - 1.4.5. Profiles and Roles: "Nursing Team"
  - 1.4.6. 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 Ward.
  - 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. Neonatal Resuscitation

- 3.1. Neonatal Resuscitation.
  - 3.1.1. Cardiovascular Risk Factors.
  - 3.1.2. General Procedures in the Moments Prior to Delivery.
- 3.2. Resuscitation Team.
- 3.3. Neonatal Resuscitation Equipment.
- 3.4. Resuscitation Procedures.
- 3.5. Respiratory Assistance Methods.
- 3.6. Cardiac Massage.
- 3.7. Administration of Medication: drugs and fluids.
- 3.8. Neonatal Cardiorespiratory Arrest Care.
- 8.9. Special Situations for Resuscitation.
- 3.10. Basic Principals for a Successful Resuscitation and Possible Complications that Could Arise During the Process.

#### Module 4. Pharmacology in Neonatology.

- 4.1. General Aspects of Neonatal Pharmacology.
- 4.2. Modifications in the Reaction of Drugs in Newborns.
- 4.3. Pharmacokinetics in Neonatology.
  - 4.3.1. Absorption of Drugs.
  - 4.3.2. Distribution of Drugs.
  - 4.3.3. Binding of Drug to Plasma Proteins According to Development.
  - 4.3.4. Metabolism or Biotransformation of Drugs in the Child.
  - 4.3.5. Excretion of Drugs in Neonatology.
- 4.4. Pharmacodynamics in Neonatology.
- 4.5. Dosage Guidelines.
  - 4.5.1. Excipients Used in Neonatal Formulations.
  - 4.5.2. Therapeutic Guidelines
- 4.6. Drug interactions.
  - 4.6.1. Types of Pharmalogical Interactions.
  - 4.6.2. Interaction Risk Prevention.
- 4.7. Use of Drugs in Neonatology.

## **Module 5.** Principles of Drug Administration and Vascular Access in Neonatology.

- 5.1. Principles of Drug Administration in the NICU.
  - 5.1.1. Enteral Route.
  - 5.1.2. Rectal Route.
  - 5.1.3. Intramuscular Route.
  - 5.1.4. Subcutaneous Route.
  - 5.1.5. Intravenous Route.
- 5.2. Specific Ways to Administer Drugs I: Rapid Intravenous Route.
- Specific Ways to Administer Drugs II: Intravenous Route with a Specific Infusion Rate.
- 5.4. Specific Ways to Administer Drugs III: Continuous Intravenous Route.
- 5.5. Specific Ways to Administer Drugs IV: Peripheral Venous Route.
  - 5.5.1. Necessary Equipment.
  - 5.5.2. Procedure.
  - 5.5.3. Maintaining the Line.
  - 5.5.4. Removing the Line.
  - 5.5.5. Possible Complications that Could Arise.
- 5.6. Specific Ways of Administering Drugs V: Percutaneous Venous Route.
  - 5.6.1. Indications.
  - 5.6.2. Necessary Equipment.
  - 5.6.3. Procedure.
  - 5.6.4. Precautions.
  - 5.6.5. Contraindications.
  - 5.6.6. Complications.

- 5.7. Specific Ways to Administer Drugs VI: Cannulation of the Umbilical Artery and Vein.
  - 5.7.1. Indications.
  - 5.7.2. Necessary Equipment.
  - 5.7.3. Preparation.
  - 5.7.4. Common Procedure for the Umbilical Artery and Umbilical Vein.
  - 5.7.5. Contraindications.
  - 5.7.6. Complications.
- 5.8. Specific Ways to Administer Drugs VII: Cannulation of the Peripheral Artery.
  - 5.8.1. Indications.
  - 5.8.2. Necessary Equipment.
  - 5.8.3. Procedure.
  - 5.8.4. Extraction of a Catheter.
  - 5.8.5. Precautions.
  - 5.8.6 Contraindications
  - 5.8.7. Complications



A unique, key, and decisive Training experience to boost your professional development"



be one of the most effective.

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

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

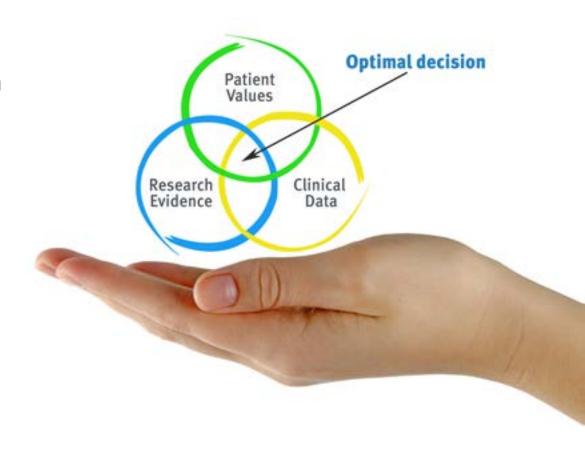


## tech 24 | Methodology

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

In a given clinical situation, what would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, 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 university program.





#### **Re-learning Methodology**

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

Our University is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing 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 | 27 tech

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

With this methodology we have trained more than 175,000 nurses with unprecedented success, in all specialties regardless of from the workload. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

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

The overall score obtained by our learning system is 8.01, according to the highest international standards

In this program you will have access to the best educational material, prepared with you 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.

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.



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

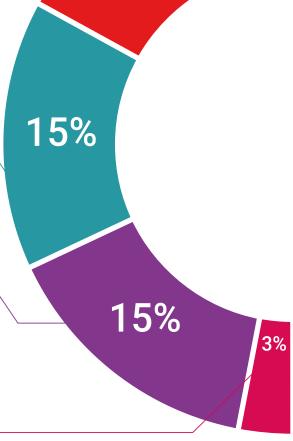
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current nursing procedures and techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### **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 unique multimedia content presentation training system 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 training.



Effective learning ought to be contextual. For this reason, we will present you with real case developments in which the expert will guide you through the development of attention and the resolution of different situations: a clear and direct way to achieve the highest degree of understanding.

#### **Testing & Re-Testing**



We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.

#### Classes



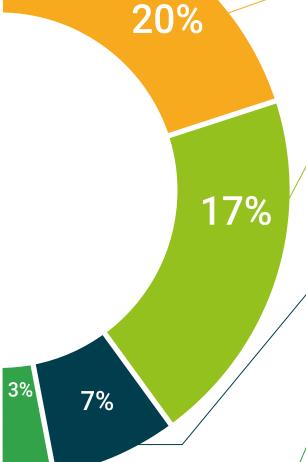
There is scientific evidence on the usefulness of third-party expert observation.

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

#### **Quick Action Guides**



We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.







## tech 32 | Certificate

This Postgraduate Diploma in Neonatal Intensive Care Unit for Nurses contains the most complete and up to date scientific program on the market.

After the student has passed the evaluations, they will receive their corresponding Postgraduate Diploma issued by TECH Technological University

The diploma issued by **TECH Technological University** will express 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 Neonatal Intensive Care Unit for Nurses

Official Number of Hours: 400



Neonatal Intensive Care Unit for Nurses

This is a qualification awarded by this University, with 16 ECTS credits and equivalent to 400 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.

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

future
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institutions technology learning



## Postgraduate Diploma

## Neonatal Intensive Care Unit for Nurses

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

