

Postgraduate Diploma Neonatal Care





Postgraduate Diploma Neonatal Care

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

Website: www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-neonatal-care

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 16

05

Methodology

p. 22

06

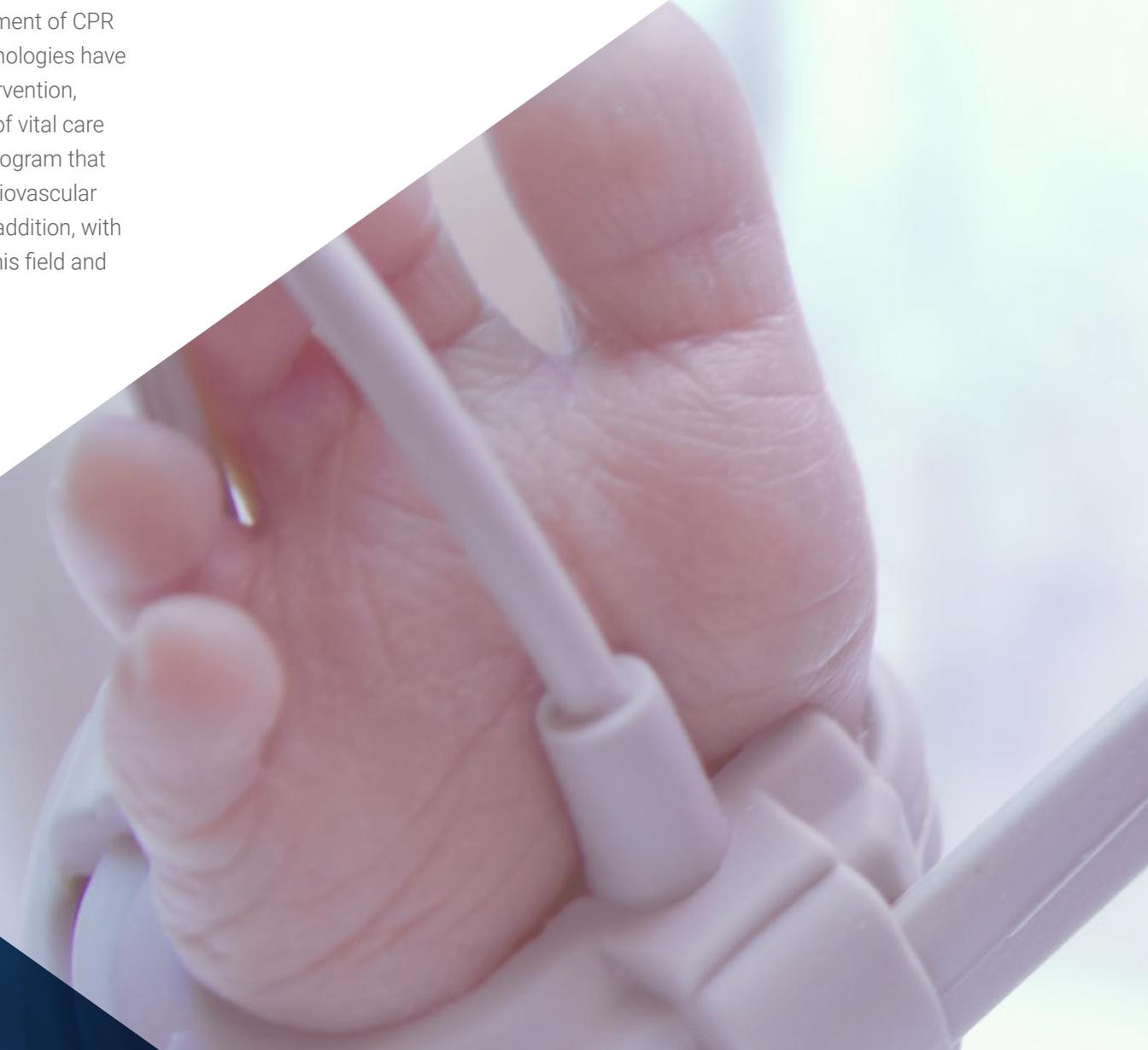
Certificate

p. 30

01

Introduction

New devices capable of improving pediatric patient care, the improvement of CPR maneuvers in neonates, as well as the early detection of the main pathologies have optimized the results in neonatology. Thus, not only from the first intervention, but throughout the hospitalization until discharge, it requires a series of vital care for the patient's prognosis. For this reason, TECH has designed this program that delves into the assessment of the preterm infant, respiratory and cardiovascular pathologies, as well as advances in oxygen administration. All this, in addition, with a program designed by real experts with accumulated experience in this field and with 100% online didactic material.





“

*A 100% online Postgraduate Diploma
that brings you the most complete and
current information on Newborn Care”*

The area of neonatology has undergone an important evolution in recent years as a result of the increase in research in this field, as well as the advances in the technology used for patient care, monitoring and oxygen supply at crucial moments for their survival.

A wide field of action that has revalued this specialty and that leads medical professionals to continuously update their knowledge about the main pathologies present in newborns. In this sense, TECH has developed this 6-month University Expert in Neonatal Care with the most exhaustive information, based on scientific evidence.

In this way, the students will learn throughout this academic itinerary about the most advanced equipment and material used in the Neonatal Unit, the special situations that can be encountered when performing Resuscitation, as well as the diagnosis and approach to respiratory and cardiovascular diseases.

Thus, the graduate will obtain an effective update in a dynamic way. The specialist has innovative didactic material in which the latest technology applied to academic teaching has been used. In this line, you will have at your disposal video summaries of each topic, videos in detail, essential readings and clinical case studies, accessible 24 hours a day, from any electronic device with an Internet connection.

An ideal university program to combine with the most demanding responsibilities, since it is not necessary to go to any academic center in person, nor does it have classes with restricted schedules. Therefore, the physician will be able to view the content comfortably, whenever and wherever he/she wishes.

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

- ♦ The development of practical cases presented by experts in Pediatrics and Neonatology
- ♦ 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
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions for experts, discussion forums on controversial issues and individual reflection work
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



The student will have access to this program 24 hours a day from any electronic device with an Internet connection"

“

Balance your clinical responsibilities with a quality university certificate and the most cutting-edge content in Neonatal Care”

Are you looking to stay informed about studies on the early and pivotal moments of newborns? Achieve it through this program.

An intensive yet productive academic tour through the most relevant information on Respiratory Disorders in Neonatology.

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

Its multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive education programmed to learn in real situations.

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



02 Objectives

This Postgraduate Diploma will lead the medical professional to integrate into their daily practice the most accurate and current methodology in the management of oxygen therapy, the various modalities of respiratory assistance and care of preterm and premature patients who have possible sequelae and hinder their hospital discharge. All this will also be much easier to achieve thanks to the program designed by experts with extensive experience in Neonatology Units.





“

The case studies will take you to immerse in the most precise maneuvers of Neonatal Resuscitation”



General Objectives

- ♦ Delve into preterm neonates and their implications
- ♦ Update knowledge of the indications for prevention in sick neonates
- ♦ Be aware of the protocols that optimize the treatment of the sick neonate
- ♦ Describe the main characteristics of the healthy newborn and its basic care
- ♦ Systematize the main problems, disorders and diseases of the newborn, such as weight gain and metabolic development, prematurity, congenital malformations, respiratory or cardiac pathology, metabolic and blood disorders, or digestive or nutritional complications
- ♦ List and describe the main common procedures in neonatology
- ♦ Deepen in the therapeutic activities in the pathologies of the neonate
- ♦ Delve into the basic and specific aspects of complementary examinations in this subspecialty and how to perform them
- ♦ Investigate the knowledge of the different procedures of neonatal nutrition
- ♦ Analyze the follow-up of the newborn once it has been controlled in the acute period
- ♦ Illustrate and reflect on the different moments of care in the models of assistance to the newborn, both healthy and with pathology requiring hospital treatment
- ♦ Explain the various systems of care for the sick neonate, delimiting the continuity between the neonatal period of acute illness and its subsequent follow-up
- ♦ Describe all the accompaniment that the technology means for the adequate monitoring and follow-up of these children, being able to be coupled to the various guides and protocols to finally obtain a global health concept
- ♦ Deepen all the possibilities of on-site and even remote monitoring to achieve a very early and optimal performance on the impact of the disease on the neonate
- ♦ Delve into all aspects of the concepts of complementary knowledge that allow understanding perinatology as a complete subspecialty, from the fetal period to long-term follow-up in outpatient clinics
- ♦ Detail the parameters that will indicate the correct acquisition of all the developmental items of the various organs and apparatuses in order to obtain an optimal long-term result
- ♦ Specify all the elements of the pathological conditions of the sick neonate in order to be able to establish work routines with results at the level of medical excellence



Specific Objectives

Module 1. Aspects of the initial moments highlighted in Neonatology

- ♦ Update the initial assessment protocols
- ♦ Delve into the classification and assignment of neonatal groups
- ♦ Assess the risk, maturity and morphology of the neonate
- ♦ Identify the criteria for admission
- ♦ Describe the equipment needed to care for neonates
- ♦ Delve into the newborn reception protocol in the different Neonatology Units
- ♦ Deepen in the basis of neonatal transport
- ♦ Identify the different Thermoregulation Appearance
- ♦ Update knowledge on newborn analgesia

Module 2. Preterm/Premature Child

- ♦ Identify the various types of Preterm Infant
- ♦ Delve into the exploration and categorization process of these children
- ♦ Describe triggering of prematurity
- ♦ Deepen in the assessment of their various pathologies
- ♦ Inquire into the care by organs and devices in neonatal
- ♦ Address possible sequels

Module 3. Respiratory Pathophysiology and Respiratory Disorders in Neonatology

- ♦ Deepen in the pulmonary physiopathology
- ♦ Establish the categorization of Neonatal Respiratory Pathology
- ♦ Delve into Oxygen Therapy
- ♦ Deepen the monitoring of neonates
- ♦ Describe the modalities of respiratory assistance



From a theoretical-practical perspective, you will be able to delve into the main complications of endotracheal intubation”

03

Course Management

The high level of clinical and research competencies of the teaching staff of this program has been a determining factor for its inclusion in this University Expert. Thus, the graduate will have an excellent team of specialists in Neonatology, with accumulated experience in the care and approach of the main pathologies in this type of patients. In addition, thanks to their proximity students will be able to resolve any doubts that may arise regarding the content of this complete program.





“

Experts in Vaccinology, Pediatric Critical Care Transport and Neonatology have put together the most comprehensive Neonatal Care syllabus in academia today”

Management



Dr. Baca Cots, Manuel

- ♦ Head of the Pediatrics and Neonatology Service at Hospital Quirón Málaga
- ♦ Head of Neonatology at Hospital Clínica Dr. Gálvez
- ♦ Head of Neonatology at Hospital Qurón of Murcia
- ♦ Head of Andalusian Health Service (SAS)
- ♦ Principal investigator of international multi-center projects
- ♦ Degree in Medicine from the University of Granada

Professors

Dr. Pérez, Maribel

- ♦ Neonatologist at the Neonatal Unit of the Quirón Salud Hospital of Málaga
- ♦ Pediatric Critical Care Transport
- ♦ Degree in Medicine from the University of Granada

Dr. Boix, Héctor

- ♦ Head of Service, Quirón Hospital of Barcelona
- ♦ Head of the Pediatrics Services Quirón, Teknon, Dexeus and El Pilar
- ♦ Neonatologist at the Neonatal Intensive Care Unit of Vall d'Hebron Hospital
- ♦ Pediatrician at the Monash Medical Centre in Melbourne
- ♦ Member of Research and Standards Commissions of the Spanish Society of Neonatology (SENeo), European Society for Paediatric Research (ESPR), National Representative in the European Board of Neonatology (EBN)



Dr. Castell, Laura

- ♦ Head of the Pediatrics Department at del Vallés de Sabadell Hospital
- ♦ Head of Pediatric ICU at the General University Hospital of Cataluña
- ♦ Attending Physician, Pediatric Emergency Department Catalunya University Hospital
- ♦ Lecturer in undergraduate and postgraduate courses at several universities such as the Private Foundation Fundació Escoles Universitàries Gimbernat and the International University of Cataluña
- ♦ Coordinator of the Neonatology working group of the Catalan Society of Pediatrics
- ♦ Degree in Medicine from the University of Barcelona
- ♦ Member of Spanish Society of Neonatology (SENEO), Spanish Association of Pediatrics (AEP), Spanish Society of Internal Pediatrics

Dr. Concheiro Guisán, Ana

- ♦ Head of the Pediatrics Department at Alvaro Cunqueiro de Vigo Hospital
- ♦ Coordinator of Clinical Teaching in the Degree in Medicine at the University Hospital Complex of Vigo
- ♦ Doctor of Medicine from the University of Barcelona
- ♦ Coordinator of the Rare Diseases and Pediatric Medicine Group of the Galicia Sur Health Research Institute (IISGS)
- ♦ Member of Vice-President of the Galician Bioethics Council

Dr. Ruiz Ramos, María José

- ♦ Attending Pediatrician at Quirón Hospital
- ♦ Degree in Medicine from the University of Malaga, specializing in Pediatrics

04

Structure and Content

In this university program, graduates will have a curriculum developed by an excellent teaching team specialized in Neonatology. Their clinical and scientific experience in this field is reflected in a content that offers the most rigorous information on the initial assessments of a neonate, the most frequent respiratory and cardiac pathologies, as well as their approach. All this, in addition, complemented by pedagogical tools hosted on the virtual platform and available at all times.





“

*A syllabus of 450 teaching hours
focused on evidence-based
medicine applied to neonatology”*

Module 1. Aspects of the Initial Moments Highlighted in Neonatology

- 1.1. Neonatal Assessments
 - 1.1.1. By gestational age
 - 1.1.2. By weight at birth
 - 1.1.3. Premature Newborns
 - 1.1.4. Complete Physical Examination of the Newborn
- 1.2. Anatomical and Physiological Characteristics of the Newborn
 - 1.2.1. Newborn Somatometry
 - 1.2.2. Morphological Characteristics
 - 1.2.3. Physiological Characteristics
 - 1.2.4. Monitoring and Follow-Up
- 1.3. Admission of the Newborn (NB) in the Neonatal Unit
 - 1.3.1. Admission criteria and objectives
 - 1.3.2. Neonatal unit organization
 - 1.3.3. Equipment and Materials
 - 1.3.4. Distribution of staff and functions
- 1.4. Neonatal Transport
 - 1.4.1. Neonatal transport equipment and supplies
 - 1.4.2. Types of Transport
 - 1.4.3. Respiratory Support
 - 1.4.4. Monitoring
- 1.5. Neonatal Resuscitation
 - 1.5.1. Initial Stabilization
 - 1.5.2. Resuscitation Equipment and Organization
 - 1.5.3. Neonatal Resuscitation Equipment
 - 1.5.4. Special Situations
- 1.6. Thermal Management in a Newborn:
 - 1.6.1. Neutral Thermal Environment
 - 1.6.2. Equipment and thermal neutral environment
 - 1.6.3. Thermoregulation Skin Care
 - 1.6.4. Commissioning



- 1.7. Hypothermia in a Newborn with Hypoxic-ischemic Encephalopathy as a protection
 - 1.7.1. Commitment of Fetal Well-being
 - 1.7.2. Forms of hypothermia
 - 1.7.3. Concept of Neuro Protection
 - 1.7.4. Hypothermia management
 - 1.8. Pain Management in a Newborn
 - 1.8.1. Scales of Neonatal Pain
 - 1.8.2. Pharmacology of Neonatal Pain
 - 1.8.3. Main tables for the Treatment of Pain
 - 1.8.4. Other ways to treat pain
 - 1.9. Newborn Skin Basic Elements
 - 1.9.1. Neonatal skin signs
 - 1.9.2. Newborn Skin Care
 - 1.9.3. Skin and neonatal syndromes
 - 1.9.4. Skin in the Prematurity
 - 1.10. Child of a mother with uncontrolled pregnancy
 - 1.10.1. Child of a smoking mother
 - 1.10.2. Fetal Alcohol Syndrome
 - 1.10.3. Son of a drug-using mother
 - 1.10.4. Neonatal abstinence syndrome
- Module 2. Preterm/Premature Child**
- 2.1. Etiopathogenesis of Prematurity
 - 2.1.1. Definition and Types of Prematurity
 - 2.1.2. Morphological Assessment
 - 2.1.3. Calculation of Gestational Age
 - 2.1.4. Viability Criteria
 - 2.1.5. Ethical and Legal Considerations
 - 2.2. Evaluation of the fetal causes of prematurity
 - 2.2.1. Prevention of Prematurity
 - 2.2.2. Antenatal corticosteroids to accelerate fetal maturation
 - 2.2.3. New indications and neuroprotection in the preterm newborn
 - 2.2.4. Pre-term Care Results
 - 2.3. Arrival of an Underweight Premature Newborn
 - 2.3.1. Initial Stabilization
 - 2.3.2. Resuscitation Equipment and Organization
 - 2.3.3. Neonatal Resuscitation Equipment
 - 2.3.4. Special Situations
 - 2.4. Respiratory Pathology and Cardiovascular
 - 2.4.1. Preterm Respiratory Pathology and Oxygen Administration
 - 2.4.2. Respiratory Physiology and Mechanical Ventilation
 - 2.4.3. Non-Invasive Ventilation (NIV)
 - 2.4.4. Principles of preterm cardiology
 - 2.5. Neurological and Ophthalmological Pathology
 - 2.5.1. Neonatal Seizures
 - 2.5.2. Neonatal intracranial hemorrhages and perinatal cerebral infarction
 - 2.5.3. Hypoxic-Ischemic Encephalopathy and Hypothermia
 - 2.5.4. Main ophthalmologic pathology in preterm infants
 - 2.6. Digestive and its nutrition Pathologies
 - 2.6.1. Esophageal Atresia
 - 2.6.2. Necrotizing Enterocolitis
 - 2.6.3. Breastfeeding with mother's milk
 - 2.6.4. Parenteral feeding in the preterm neonate
 - 2.7. Hematologic Pathology
 - 2.7.1. Neonatal Anemia
 - 2.7.2. Neonatal Hiperbilirubinemia
 - 2.7.3. Platelet Alterations
 - 2.7.4. Hemorrhages and Coagulation Disorder
 - 2.8. Endocrinologic and metabolic pathology
 - 2.8.1. Metabolopathies
 - 2.8.2. Screening
 - 2.8.3. Thyroid and adrenal glands
 - 2.8.4. Glucose Homeostasis

- 2.9. Hospital Discharge
 - 2.9.1. Feeding
 - 2.9.2. Pharmacological Supplements
 - 2.9.3. Neuropsychological and Somatometric Monitoring
 - 2.9.4. Prevención of Respiratory Infections
 - 2.9.5. Vaccinations for Premature Newborns
- 2.10. Long-term follow-up and chronic problems of premature infants
 - 2.10.1. At-risk premature infant follow-up programs
 - 2.10.2. Surgical schedule
 - 2.10.3. Bronchopulmonary dysplasia and chronic lung disease
 - 2.10.4. Early Care Units

Module 3. Respiratory Pathophysiology and Respiratory Disorders in Neonatology

- 3.1. Lung development, embryology, anatomy and physiology
 - 3.1.1. Lung development
 - 3.1.2. Embryology of the lung
 - 3.1.3. Physiology of the lung
 - 3.1.4. Extrauterine adaptation
- 3.2. Respiratory Pathology in Recent Newborns
 - 3.2.1. Acute Respiratory Failure
 - 3.2.2. Apneas
 - 3.2.3. Pulmonary Hypertension
 - 3.2.4. Chronic Pulmonary Hypertension
- 3.3. Respiratory Physiology and Mechanical Ventilation
 - 3.3.1. Indications
 - 3.3.2. Mechanical ventilation methods
 - 3.3.3. Complications
 - 3.3.4. Extubation
- 3.4. Non-Invasive Ventilation (NIV)
 - 3.4.1. Indications
 - 3.4.2. Non-invasive ventilation methods
 - 3.4.3. Complications
 - 3.4.4. Following Up
- 3.5. Invasive Ventilation
 - 3.5.1. Different pathologies
 - 3.5.2. Gasometric targets
 - 3.5.3. High Frequency Ventilation
 - 3.5.4. Results
- 3.6. Oxygen administration
 - 3.6.1. Indications
 - 3.6.2. Form of Administration
 - 3.6.3. Complications
 - 3.6.4. Following Up
- 3.7. Endotracheal Intubation
 - 3.7.1. Material and method for intubation
 - 3.7.2. Indications
 - 3.7.3. Care of intubated children
 - 3.7.4. Complications
- 3.8. Endotracheal extubation
 - 3.8.1. Material and method for extubation
 - 3.8.2. Shapes
 - 3.8.3. Care of extubated children
 - 3.8.4. Results
- 3.9. Impossible extubation process
 - 3.9.1. Attitude towards the child impossible to extubate
 - 3.9.2. Care of the chronically intubated child
 - 3.9.3. Other care of the child with tracheostomy
 - 3.9.4. Ondine syndrome
- 3.10. Cricothyroidotomy and tracheostomy
 - 3.10.1. Indications for tracheostomy
 - 3.10.2. Tracheostomy care
 - 3.10.3. Various pathologies and tracheotomy
 - 3.10.4. Home care



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 we use the Case Method

What should a professional do in a given situation? 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. Specialists learn better, faster, and more sustainably over time.

With TECH you will experience a way of learning 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, trying to recreate the real conditions in the physician's professional 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. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate 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.



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 the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

Professionals will learn through real cases and by resolving 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, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. 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.

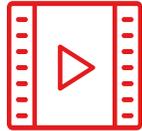
Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

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 highly 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.



Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and 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 the videos as many times as you like.



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 on the usefulness of learning by observing experts. The system known as 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 Diploma in Neonatal Care guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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 Diploma in Neonatal Care** contains the most complete and up-to-date scientific program on the market.

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

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

Title: **Postgraduate Diploma in Neonatal Care**

Official N° of Hours: **450 h.**



*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.



Postgraduate Diploma Neonatal Care

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

Postgraduate Diploma Neonatal Care

