

Hybrid Professional Master's Degree Neonatology





Hybrid Professional Master's Degree

Neonatology

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

Accreditation: 60 + 4 ECTS

Website: www.techtute.com/us/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-neonatology

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01

Introduction

Neonatology has experienced significant advances in recent years, thanks to the development of new technologies and therapeutic approaches. In fact, the use of Artificial Intelligence to monitor complications, innovations in Non Invasive Ventilation and personalized treatments have greatly improved survival rates of premature and critical newborns. In addition, the multidisciplinary approach has proven to be key in comprehensive care, promoting not only the physical stability of the neonate, but also its long-term neuropsychological development. In this context, TECH has developed this comprehensive program, which combines the online format for theory, based on the innovative learning methodology known as Relearning, with a practical stay in a renowned clinic.





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Thanks to this Hybrid Professional Master's Degree, you will have access to advanced specialization, facilitating your continuous updating of knowledge in a medical field in constant evolution, such as Neonatology”

Technological advances in Neonatology, such as intelligent incubators and continuous monitoring systems, have significantly improved the neonatal survival rate worldwide. At the same time, recent studies highlight that the global rate of prematurity remains high, affecting approximately 10% of births, which underlines the importance of highly specialized Neonatal Intensive Care Units (NICU).

This is how this Hybrid Professional Master's Degree was born, thanks to which doctors will investigate neonatal assessment techniques to detect complications from birth, delving into the physiological transition of the neonate. They will also analyze the safety and effectiveness of admission protocols in neonatal units, including the management of neonatal transport and thermal control strategies to prevent complications such as Hypothermia.

Likewise, the physiopathology of Neonatal Respiratory Diseases will be analyzed, together with the application of respiratory assistance modalities, such as Mechanical and Non Invasive Ventilation. In this sense, professionals will master Neonatal Resuscitation techniques, evaluating their impact on premature and low weight neonates. In addition, critical conditions such as Neonatal Shock and Sepsis will be examined, together with Congenital Heart Disease.

Finally, specialized areas will be included, such as Neurological, Digestive and Hematological Disorders in neonates, where complex pathologies such as Hypoxic-Ischemic Encephalopathy, Necrotizing Enterocolitis and Hyperbilirubinemia will be addressed. Likewise, experts will be updated on the immunological development of the newborn and its relationship with Perinatal Infections.

Therefore, TECH has implemented a comprehensive program, which will be divided into two distinct sections. First, graduates will be able to study the theory completely online, only needing an electronic device with an Internet connection, with the support of the revolutionary Relearning learning methodology, consisting of the reiteration of key concepts for an optimal assimilation of the contents. Ultimately, the program includes a practical stay of 3 weeks in a prestigious hospital center.

This **Hybrid Professional Master's Degree in Neonatology** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ Development of more than 100 clinical cases presented by medicine professionals with expertise in Neonatology and university professors with extensive experience in newborn patients
- ♦ 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
- ♦ Patient assessment and monitoring, the latest international recommendations for life support maneuvers, etc
- ♦ Comprehensive systematized action plans for the main pathologies in Neonatology
- ♦ Presentation of practical workshops on diagnostic and therapeutic techniques in neonatal patients
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ♦ Practical clinical guides on approaching different pathologies
- ♦ 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
- ♦ Furthermore, you will be able to carry out a clinical internship in one of the best hospital centers

“*Face-to-face internships will guarantee the acquisition of specialized clinical skills in neonatal care, favoring a direct immersion in the management of real cases*”

In this proposed Master's Degree, of a professionalizing nature and blended learning modality, the program is aimed at updating medical professionals who perform their functions in Neonatal Units, and who require a high level of qualification. The contents are based on the latest scientific evidence, and oriented in a didactic way to integrate theoretical knowledge into Doctor practice, and the theoretical-practical elements will facilitate the updating of knowledge and allow decision making in patient management.

Thanks to the multimedia content, developed with the latest educational technology, Medicine professionals will benefit from contextual learning, i.e., a simulated environment that will provide immersive learning programmed to specialize in real situations. This program is designed around Problem-Based Learning, whereby the physician must try to solve the different professional practice situations that arise during the course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

You will delve into the physiological and anatomical adaptations that the neonate undergoes as it moves from intrauterine to extrauterine life, thanks to an extensive library of innovative multimedia resources.

You will be specialized in techniques to ensure survival and improve short- and long-term outcomes in babies with respiratory problems or who are born with low birth weight problems.



02

Why Study this Hybrid Professional Master's Degree?

The hybrid modality will allow professionals to continue with their work and personal life, without losing the opportunity to obtain advanced and updated specialization in a high demand area. In addition, the theoretical part will be complemented with a practical stay of 3 weeks in prestigious hospital environments, guaranteeing a complete experience. Therefore, at the end of this Hybrid Professional Master's Degree, professionals will have acquired specialized skills to address complex pathologies in neonates, improving both their professional profile and the quality of life of newborns under their care.





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This Hybrid Professional Master's Degree is an excellent option for those seeking to specialize in newborn care, combining online learning with indispensable clinical practice”

1. Updating from the latest technology available

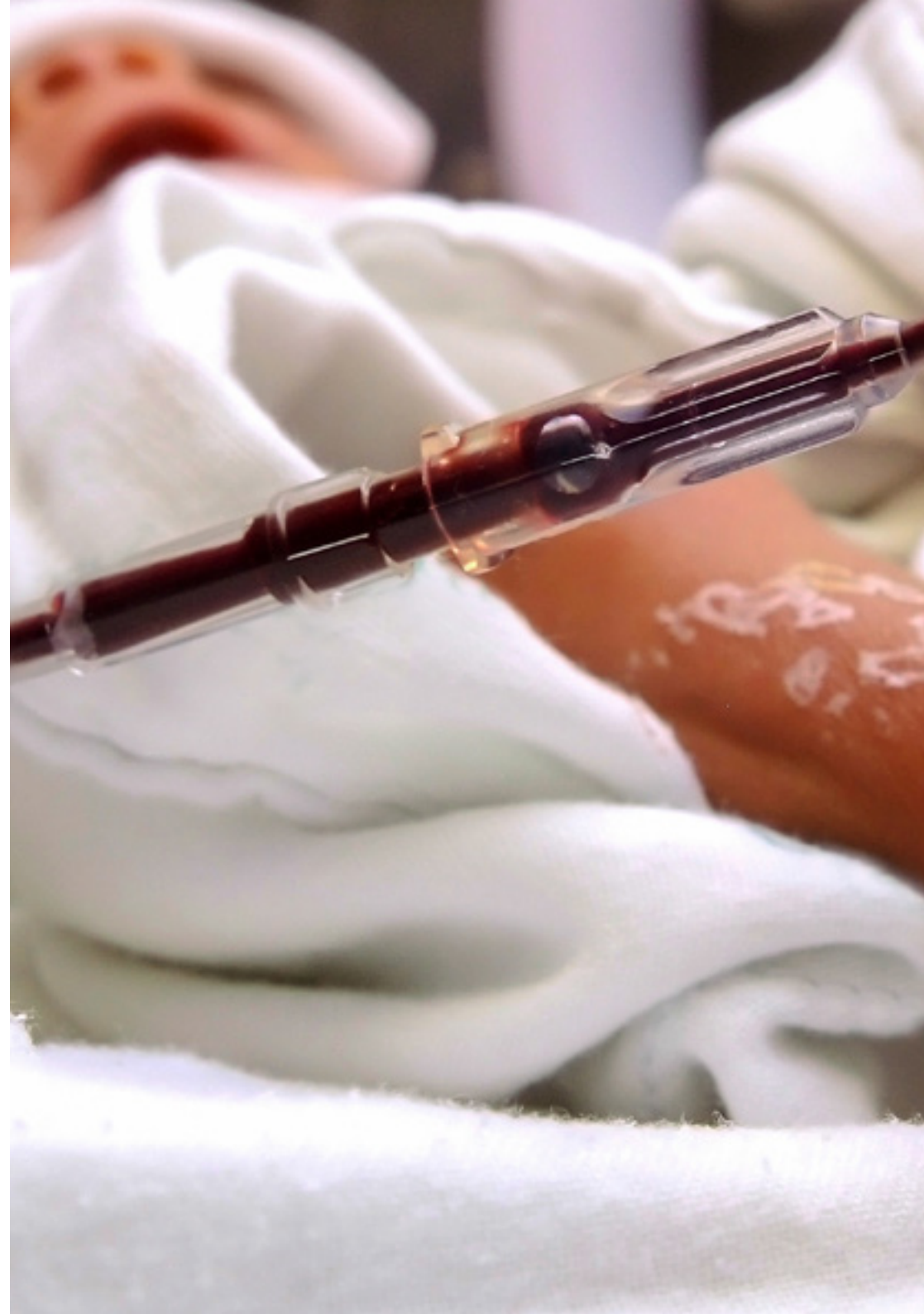
The latest technology in Neonatology has revolutionized the care of newborns, especially those in critical or premature situations. Among the most outstanding advances are the non-invasive monitoring systems, which make it possible to measure vital signs such as heart rate, oxygenation and blood pressure without causing discomfort to the newborn. In addition, assisted ventilation techniques have evolved with devices that minimize lung damage, such as High-Frequency Ventilation and Non-Invasive Ventilation.

2. Gaining in-depth knowledge from the experience of top specialists

The large team of professionals that will accompany the specialist throughout the practical period is a first-class and an unprecedented guarantee of updating. With a specifically designated tutor, students will be able to see real patients in a state-of-the-art environment, which will allow them to incorporate the most effective procedures and approaches in Neonatology into their daily practice.

3. Entering first-class clinical environments

TECH carefully selects all available centers for Internship Programs. Thanks to this, specialists will have guaranteed access to a prestigious clinical environment in the area of Neonatology. In this way, you will be able to see the day-to-day work of a demanding, rigorous and exhaustive sector, always applying the latest theses and scientific postulates in its work methodology.





Why Study this Hybrid Professional | 11 **tech** Master's Degree?

4. Combining the best theory with state-of-the-art practice

The academic market is plagued by teaching programs that are poorly adapted to the daily work of the specialist and that require long teaching hours, often not very compatible with personal and professional life. TECH offers a new learning model, 100% practical, that allows to get in front of state-of-the-art procedures in the field of Neonatology and, best of all, to put it into professional practice in only 3 weeks.

5. Opening the door to new opportunities

The Neonatology specialization offers the possibility of contributing to pioneering developments, such as new resuscitation techniques and management strategies for rare or emerging neonatal diseases. In fact, professionals in the field will be able to participate in clinical studies and research projects that seek to improve long-term outcomes for neonates. In addition, with the growing demand for experts in specialized neonatal care, opportunities have opened up to lead multidisciplinary teams, influence health policies and foster the development of new solutions.

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*You will have full practical immersion
at the center of your choice”*

03 Objectives

This university program will specialize professionals to accurately identify and manage the various medical conditions affecting neonates, from Respiratory and Cardiac Pathologies, to Neurological and Metabolic Disorders. Skills will also be developed for the implementation of the latest technologies and protocols in Neonatology, promoting the application of evidence-based practices. In addition, the ability of physicians to collaborate effectively in multidisciplinary teams, improve communication with families and contribute to research and development in the field.



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You will address infections and hematologic disorders, integrating new technologies to improve neonatal care, with the best didactic materials, at the forefront of technology and education”



General Objective

- ♦ The objective of the Hybrid Professional Master's Degree will be to provide comprehensive specialization to health professionals in the neonatal field. Therefore, physicians will be updated in the key aspects of early evaluation of the newborn, analyzing both anatomical and physiological conditions. In addition, they will master the appropriate procedures for neonatal admission and transport, as well as resuscitation and thermal control techniques. They will also develop strategies to prevent and treat Hypothermia and Pain, and will investigate the Respiratory and Cardiovascular Pathologies, as well as Neurological, Metabolic, Renal and Immunological Disorders



The goal of the program will be to provide you with comprehensive and advanced specialization in newborn care, combining online learning with hands-on experience in clinical settings”





Specific Objectives

Module 1. Aspects, of The Initial Moments, Highlighted in Neonatology

- ♦ Differentiate neonatal assessment techniques in the early detection of possible complications or medical conditions in the newborn
- ♦ Delve into the anatomic and physiologic adaptations of the newborn and their relationship to the transition from intrauterine to extrauterine life
- ♦ Analyze the effectiveness of newborn admission protocols to the neonatal unit in terms of safety and timely medical care
- ♦ Delve into the methods of neonatal transport in terms of their impact on the clinical stability and long-term health of the neonate.
- ♦ Address thermal management strategies and their effect on the prevention of Hypothermia and its complications

Module 2. Respiratory Pathophysiology and Respiratory Disorders in Neonatology

- ♦ Master the physiopathology to understand etiology and treatment of Neonatal Respiratory Diseases
- ♦ Define the efficacy of respiratory support modalities and Mechanical Ventilation
- ♦ Address the impact of Non Invasive Ventilation in premature neonates
- ♦ Narrow down new forms of Ventilation to improve respiratory outcomes
- ♦ Evaluate Neonatal Resuscitation strategies in low birth weight premature infants
- ♦ Analyze mechanisms and therapies for specific Neonatal Respiratory Diseases
- ♦ Delve into the techniques of Neonatal Resuscitation and their relationship to short and long term results in neonates with health problems at birth

Module 3. Shock and Neonatal Sepsis; Cardiac Disorders and Congenital Heart Disease in Neonatology

- ♦ Examine in detail the treatment and management of Early Neonatal Sepsis
- ♦ Identify clinical aspects and treatment of Late Neonatal Sepsis
- ♦ Differentiate pathophysiology and phases of Neonatal Shock
- ♦ Select the treatment of Neonatal Shock and its efficacy
- ♦ Delve into the Persistent Pulmonary Hypertension and Patent Ductus Permeable
- ♦ Classify Neonatal Cardiopathies, including Cyanotic ones

Module 4. Neurological Disorders in Neonatology; Neonatal Endocrinology, Dismorphology and Oncology

- ♦ Assess the diagnosis and treatment of Neonatal Seizures
- ♦ Analyze the pathophysiology and diagnosis of Hypoxic-Ischemic Encephalopathy
- ♦ Identify Microcephaly and the approach to neonatal etiological diagnosis
- ♦ Analyze specific Neurological Pathology in premature infants
- ♦ Define Hypopituitarism and Thyroid Disorders in neonates
- ♦ Evaluate different neonatal oncologic screening and management techniques

Module 5. Digestive Disorders and Nutrition in Neonatology

- ♦ Approach Neonatal Nutrition and Digestive Pathology from a general perspective
- ♦ Differentiate the role of probiotics and prebiotics in Neonatology
- ♦ Analyze Necrotizing Enterocolitis in premature infants: diagnosis and treatment
- ♦ Evaluate the diagnoses and treatments for Necrotizing Enterocolitis in neonates
- ♦ Distinguish complications and prevention of Necrotizing Enterocolitis in neonates
- ♦ Assess Nutrition, parenteral and oral feeding in premature infants

Module 6. Hematologic Disorders in Neonatology

- ♦ Delve into the diagnosis and treatment of Neonatal Anemia
- ♦ Examine the causes and management of Polycythemia in modern Neonatology
- ♦ Address Neonatal Thrombocytopenia
- ♦ Define concepts and causes of Pathologic Neonatal Hyperbilirubinemia
- ♦ Analyze methods of screening and diagnosis of Neonatal Hyperbilirubinemia
- ♦ Evaluate different approaches to the treatment of Hyperbilirubinemia

Module 7. Renal Disorders in Neonatology and in the Internal Environment

- ♦ Delve into Renal Embryology in order to understand its development in neonates
- ♦ Analyze Nephrourological pathology and its implications in Neonatology
- ♦ Identify Acute Renal Failure in newborns
- ♦ Evaluate different therapies for the treatment of Renal Failure
- ♦ Address Neonatal Arterial Hypertension and its potential complications
- ♦ Define Hydroelectrolyte Disorders in Neonatology





Module 8. The Preterm/Premature Child

- ◆ Determine the Etiopathogenesis of Prematurity in order to understand its fundamental causes
- ◆ Analyze the fetal causes of Prematurity
- ◆ Define Patent Ductus Arteriosus and its implications
- ◆ Evaluate Retinopathy of Prematurity and its ophthalmologic treatment
- ◆ Delve into Hematologic Pathology and treatment of Neonatal Anemia
- ◆ Address the Metabolic and Neuroendocrine Pathology of the premature infant

Module 9. Neonatal Infections

- ◆ Master preventive measures to control Neonatal Nosocomial Infections
- ◆ Analyze comprehensive approaches to diagnose and treat Neonatal Meningitis
- ◆ Assess management strategies for Skin Infections in newborns
- ◆ Evaluate clinical methods to address Locomotor System Infections
- ◆ Structures methods of diagnosis and treatment of Neonatal Urinary Tract Infections
- ◆ Appropriate approach to the diagnosis of TORCH complex infections

Module 10. Fetal and Newborn Immunology

- ◆ Delve into the development of the immune system during pregnancy
- ◆ Analyze the formation of components of the fetal immune system
- ◆ Determine the specific immunological mechanisms in the neonatal period
- ◆ Evaluate maternal-fetal exchange and its immunological implications
- ◆ Define the immunologic consequences of intrauterine infections
- ◆ Develop the immunological assessment of the newborn in depth

04 Skills

Physicians will acquire skills to perform detailed assessments and accurate diagnoses of complex medical conditions from birth. They will also be specialized to implement and adapt the latest technologies and treatment techniques, such as Mechanical Ventilation and Extracorporeal Membrane Oxygenation therapy. In addition, they will develop competencies in the application of care protocols, infection control and prevention of complications. In turn, they will strengthen their skills to work in multidisciplinary teams and communicate effectively with families.



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You will develop key competencies essential for the advanced management of neonates in critical situations, always with the support of the revolutionary Relearning learning methodology”



General Skills

- ◆ Perform accurate assessments and identify urgent medical conditions in newborns
- ◆ Perform categorization of the critically ill infant
- ◆ Coordinate care from admission to discharge from the hospital, including neonatal transport
- ◆ Implement specialized clinical techniques such as resuscitation, thermal monitoring and immunological assessment
- ◆ Apply preventive measures, diagnose and treat neonatal infections effectively
- ◆ Contribute to clinical research and technological development in Neonatology
- ◆ Lead multidisciplinary teams for neonatal care, collaborating with other health professionals
- ◆ Enhance the family-centered care of a neonatal patient

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You will address complex pathologies related to the neurological, digestive and renal systems, in addition to the immunology of the fetus and newborn, with emphasis on the prevention and management of infections”





Specific Skills

- ♦ Develop comprehensive neonatal health evaluations to detect early anomalies in the newborn
- ♦ Perform Neonatal Resuscitation procedures according to current AHA guidelines
- ♦ Identify and classify Neonatal Respiratory Disorders using specific tests
- ♦ Implement preventive and therapeutic measures for Apnea in preterm neonates
- ♦ Detect signs of Shock and apply immediate therapeutic interventions
- ♦ Effectively manage complex Congenital Heart Disease in neonates
- ♦ Interpret laboratory tests and select appropriate therapies for Neonatal Sepsis
- ♦ Treat Neonatal Seizures promptly and effectively
- ♦ Estimate neurodevelopment and detect abnormalities
- ♦ Manage Neonatal Digestive Disorders, such as Necrotizing Enterocolitis
- ♦ Administer and monitor parenteral Nutrition and with digestive pathology in premature neonates
- ♦ Educate mothers on the importance and Breastfeeding technique
- ♦ Reduce the risk of nutritional complications in neonates
- ♦ Treat Neonatal Polycythemia to prevent associated complications
- ♦ Correct water-electrolyte and acid-base imbalances in neonates to maintain neonatal Homeostasis
- ♦ Apply renal replacement therapies, such as Peritoneal Dialysis in neonates with Acute Renal Failure
- ♦ Establish comprehensive follow-up plans for preterm neonates, including the identification and management of chronic problems
- ♦ Diagnosing and treating TORCH Complex Infections in neonates, providing multidisciplinary management
- ♦ Managing Respiratory Infections in neonates, including administration of oxygen and specific therapies
- ♦ Understand the mechanisms of maternal-fetal exchange and their impact on neonatal immunity
- ♦ Identify and manage congenital Humoral and Cellular Immunodeficiency syndromes in neonates
- ♦ Utilize innovative technologies for the diagnosis and treatment of Immunological Disorders in Neonatology

05

Course Management

The faculty are professionals of recognized trajectory and experience in the field of neonatology and related areas, who will provide solid academic specialization and updated knowledge, as well as a great practical experience to handle complex clinical cases. In addition, these mentors are involved in research and the development of new methodologies, ensuring that graduates are aware of the most recent advances and best practices in newborn care.





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The faculty's commitment to preparing future experts in Neonatology will guarantee you high quality teaching that is relevant to the field. With TECH's guarantee of quality!”

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)
- ♦ Lead researcher of international multi-center projects
- ♦ Degree in Medicine from the University of Granada

Professors

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 Instituto de Investigación Sanitaria Galicia Sur (IISGS)
- ♦ Member of: Vice-President of the Galician Bioethics Council

Dr. Rojas Fajardo, Cielo Carolina

- ♦ Pediatrician at the Hospital Quirónsalud Málaga
- ♦ Assistant Physician in Pediatric Electrophysiology
- ♦ Specialist in the Infant Cardiology Unit
- ♦ Specialist in Pediatrics and Child Care University Hospital of Caracas Central University of Venezuela
- ♦ Degree in Medicine from the Central University of Venezuela

Dr. Porta Ribera, Roser

- ♦ Neonatology in the Neonatal Unit at the Germans Trias i Pujol University Hospital
- ♦ Neonatology at Dexeus Hospital
- ♦ Coordinator of the Neonatal Unit at the Germans Trias i Pujol University Hospital
- ♦ Pediatrician in Neonatology at Germans Trias I Pujol Hospital
- ♦ Associate Professor's Degree in Pediatrics at the Autonomous University of Barcelona
- ♦ Degree in Medicine and Surgery from the University of Barcelona
- ♦ Certified and Instructor in Neonatal CPR by SENeo
- ♦ Certified in pediatric CPR by the European Resuscitation Council

Dr. Ruiz Ramos, María José

- ♦ Attending Pediatrician at Quirón Hospital
- ♦ Specialist in the Pediatrics Unit
- ♦ Expert in Continuous Brain Monitoring
- ♦ Degree in Medicine from the University of Malaga, specializing in Pediatrics

Dr. Ramón Salguero, José Manuel

- ♦ Director of Pediatrics in the Andalusian Health Service
- ♦ Specialist in the Pediatrics Unit at Carlos Haya Regional University Hospital
- ♦ Degree in Medicine from the University of Granada

Dr. Pérez, Maribel

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

Dr. Valverde, Eva

- ♦ Chief of Section in the Neonatology Department of La Paz Univeristy Hospital
- ♦ Neonatologist of the Neonatology Service at La Paz Univeristy Hospital
- ♦ Specialist in Pediatrics at La Paz University Hospital
- ♦ Doctorate in Medicine from the Autonomous University Madrid
- ♦ Degree in Medicine from the Complutense University of Madrid
- ♦ Member of: European Working Group on Neonatal Ultrasonography of the Brain (EUruS.Brain)

Dr. Jerez, Antonio

- ♦ Neonatologist Specialist at the Clinical Hospital of Granada
- ♦ Pediatrician.
- ♦ Pediatric and Neonatal CPR Instructor
- ♦ Lead Researcher in clinical trial projects funded by the Ministry of Health and the Department of Pediatrics of the University of Granada
- ♦ Doctor of Medicine
- ♦ Member of the Hospital Quality Commissions for Transfusions and CPR

Dr. Jiménez Alcántara, Carolina

- ♦ Medical Specialist in Pediatrics at the Regional University Hospital of Malaga
- ♦ Subspecialist in Pediatric Endocrinology
- ♦ Medical Specialist at Quirónsalud Hospital
- ♦ Pediatrician at Santa Ana Hospital
- ♦ Basic Pediatrics Primary Care Team (EBAP)
- ♦ Degree in Medicine from the University of Malaga

Dr. García Sánchez, Rubén

- ♦ Responsible for Neonatal Infectious Diseases at the University Hospital of Salamanca
- ♦ Neonatologist Specialist at the University Hospital of Salamanca
- ♦ Member of the Recognized Research Group GIR of the IBSAL “Vaccine Research”
- ♦ Member of several national and international networks of Pediatric and Neonatal Research

Dr. Gómez Rigal, José

- ♦ Head of the Immunology Service at the University Clinical Hospital of Santiago de Compostela
- ♦ Director of the Immunogenetics Laboratory
- ♦ Coordinator of the GENVIP Vaccine Research Group
- ♦ External Advisor of the Spanish Association of Pediatrics
- ♦ Auditor for the European Federation of Immunogenetics
- ♦ Member of the Committee of Experts in Precision Oncology of the Autonomous Community of Galicia



Dr. Díez Delgado, Javier

- ♦ Clinical Manager of the Neonatal Unit of Princess Leonor Mother and Child Hospital
- ♦ Head of the Critical Care and Pediatric Emergencies Section of the Pediatric Service of Torrecárdenas Hospital in Almería
- ♦ Neonatology at Torrecárdenas Hospital
- ♦ Pediatric and Neonatal CPR Instructor
Lead investigator or collaborator in the Vaccinology and Neonatology lines
- ♦ Lecturer in the Master of Emergency Medicine at the UAL
- ♦ Degree in Medicine and Surgery from the Faculty of Medicine of the University of Granada
- ♦ Member of: SPAO Board of Directors, Neonatal Transport Working Group of SENEIO and Spanish Association of Vaccinology

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You will acquire the necessary skills to face the most complex challenges in Neonatology, therefore improving the prognosis and quality of life of neonates. What are you waiting for to enroll?"

06

Structure and Content

The content will cover a wide range of topics crucial to the specialized management of newborns, from initial assessment to treatment of complex conditions. Therefore, the program will include an update on the pathophysiology of various neonatal diseases, such as Respiratory, Cardiovascular and Neurological disorders, as well as the management of Infections and Digestive disorders. In addition, physicians will analyze advanced techniques in Ventilation, Resuscitation and Life Support, along with strategies for thermal management and Neonatal Nutrition.





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You will delve into the application of cutting-edge technologies and clinical research, preparing you to meet current challenges in neonatal care and contribute to the advancement of the field”

Module 1. Aspects of the Initial Moments, Highlighted in Neonatology

- 1.1. Neonatal Assessments
- 1.2. Anatomical and Physiological Characteristics of Newborns
- 1.3. Admission of Newborns (NB) in the Neonatal Unit
- 1.4. Neonatal Transport
- 1.5. Neonatal Resuscitation
- 1.6. Thermal Management in Newborns
- 1.7. Hypothermia in the Newborn with Hypoxic-Ischemic Encephalopathy as a Neuroprotective Measure
- 1.8. Pain Management in Newborns
- 1.9. Newborn Skin Basic Elements
- 1.10. Child of a Mother with an Uncontrolled Pregnancy

Module 2. Respiratory Pathophysiology and Respiratory Disorders in Neonatology

- 2.1. Lung Development, Embryology, Anatomy and Physiology
- 2.2. Newborn Respiratory Pathology
- 2.3. Respiratory Assistance and Mechanical Ventilation Simple and High Flow Oxygen Therapy
- 2.4. Non Invasive Ventilation (NIV)
- 2.5. New Forms of Ventilation
- 2.6. Neonatal Resuscitation
- 2.7. Resuscitation of Low Birth Weight Premature Infants
- 2.8. Surfactant Deficiency Disease
- 2.9. Apnea of Prematurity
- 2.10. Bronchopulmonary Dysplasia



Module 3. Shock and Neonatal Sepsis; Cardiac Disorders and Congenital Heart Disease in Neonatology

- 3.1. Early Neonatal Sepsis and Empirical Treatment of Early Sepsis
- 3.2. Late Onset Neonatal Sepsis
- 3.3. Basic Management of Late Onset Sepsis
- 3.4. Neonatal Shock
- 3.5. Pathophysiology of Neonatal Shock
- 3.6. Phases of Neonatal Shock and Specific Clinical Situations in the Neonatal Period
- 3.7. Treatment of Neonatal Shock
- 3.8. General Aspects of the Cardiovascular System Prenatal Physiology and Circulation Tachycardias
- 3.9. Persistent Pulmonary Hypertension (PPHN) Persistent Patent Ductus
- 3.10. Classification of the Cardiopathies: The Cyanotic Cardiopathies and the Aortic Arch

Module 4. Neurological Disorders in Neonatology; Neonatal Endocrinology, Dysmorphology and Oncology

- 4.1. Clinical Presentation of Seizures and their Diagnosis Definition, Classification and Semiology of Seizures Treatment of Neonatal Seizures
- 4.2. Introduction to Hypoxic-Ischemic Encephalopathy Pathophysiology and Phases of Hypoxic-Ischemic Brain Injury Diagnosis of Perinatal HD Supportive Therapy
- 4.3. Microcephaly Definition and Approach to Etiological Diagnosis and Evaluation of the Newborn with Hypotonia Advances in the Approach to Etiological Diagnosis.
- 4.4. Neurological Pathology of Premature Infants
- 4.5. Congenital Hypopituitarism
- 4.6. Newborn with Thyroid Disorders
- 4.7. Different Types of Screening for the Different Metabolopathies Criteria for Including a Metabolopathy in Neonatal Screening
- 4.8. Screening Techniques: Handling during Heel Testing
- 4.9. Chromosomopathies and Study of Chromosomal Abnormalities
- 4.10. General Aspects of Neonatal Oncology; Neuroblastoma

Module 5. Digestive Disorders and Nutrition in Neonatology

- 5.1. General Information about Nutrition and Pathology of the Digestive System
- 5.2. Probiotics and Prebiotics
- 5.3. Digestive Pathology of Premature Infants: Necrotizing Enterocolitis
- 5.4. Diagnosis of Necrotizing Enterocolitis
- 5.5. Treatment of Necrotizing Enterocolitis
- 5.6. Complications and Prevention of Necrotizing Enterocolitis
- 5.7. Nutrition of the Premature Infant
- 5.8. Parenteral Feeding of Premature Infants
- 5.9. Breast Milk in Premature Infants
- 5.10. Oral Feeding of Premature Infants

Module 6. Hematologic Disorders in Neonatology

- 6.1. Neonatal Anemia
- 6.2. Polycythemia
- 6.3. Thrombocytopenia
- 6.4. Neonatal Hiperbilirubinemia: Definition and Concepts
- 6.5. Causes of Pathological Hyperbilirubinemia
- 6.6. Screening for Hyperbilirubinemia Diagnostic Tests
- 6.7. Treatment of Hyperbilirubinemia
- 6.8. Introduction to Bleeding Disorders and Thrombosis
- 6.9. Hemorrhagic Disorders
- 6.10. Arterial and Venous Thrombosis in the Neonatal Period

Module 7. Renal Disorders in Neonatology and in the Internal Environment

- 7.1. Renal Embryology
- 7.2. Nephro Urological Pathology
- 7.3. Acute Kidney Failure
- 7.4. Acute Renal Failure Treatment
- 7.5. Renal Replacement Therapies (RRT) Peritoneal Dialysis in Newborns
- 7.6. Neonatal Arterial Hypertension
- 7.7. Hydroelectrolyte Disorders
- 7.8. Electrolytes Sodium (Na+); Potassium (K+); Calcium (Ca++)
- 7.9. Neonatal Hypoglycemia
- 7.10. Asymptomatic Hypoglycemia

Module 8. The Preterm/Premature Child

- 8.1. Etiopathogenesis of Prematurity
- 8.2. Assessment of the Fetal Causes of Prematurity
- 8.3. Patent Ductus Arteriosus
- 8.4. Retinopathy of Prematurity
- 8.5. Screening; Ophthalmologic Treatment
- 8.6. Hematologic Pathology
- 8.7. Anemia Treatment
- 8.8. Metabolic and Neuroendocrine Pathology of Preterm Infants
- 8.9. Hospital Discharge
- 8.10. Long-Term Follow-Up and Chronic Problems of Preterm Infants

Module 9. Neonatal Infections

- 9.1. Nosocomial Infections
- 9.2. Meningitis
- 9.3. Skin Infections
- 9.4. Infections of the Locomotor System
- 9.5. Urinary Infections
- 9.6. TORCH Complex Infections
- 9.7. Respiratory Infections
- 9.8. The Laboratory and Neonatal Infections
- 9.9. Treatment
- 9.10. New Neonatal Infections Emerging in the 21st Century

Module 10. Fetal and Newborn Immunology

- 10.1. Development of the Immune System
- 10.2. Formation of the Various Components of the Immune System
- 10.3. Immunological Mechanisms Specific to this Time of Life
- 10.4. Maternal-Fetal Exchange
- 10.5. Immunologic Consequences of Intrauterine Infections
- 10.6. Immunological Assessment of the Newborn
- 10.7. Congenital Syndromes of Humoral Immunodeficiencies
- 10.8. Congenital Cell-Mediated Immunodeficiency Syndromes
- 10.9. The Pregnant Woman, the Fetus and Vaccines
- 10.10. The Application of New Technologies to this Field of Perinatology.



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You will dive into Neonatal Sepsis, Shock and Congenital Heart Disease, embracing the latest treatments, from the best digital university in the world, according to Forbes: TECH”

07

Clinical Internship

After passing the online theoretical period, the program includes a practical specialization period in a reference clinical center. In this way, students will have at their disposal the support of a tutor who will accompany them throughout the process, both in the preparation and in the development of the clinical internship.





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The internship will give you the opportunity to apply the theoretical knowledge acquired in a real clinical environment, under the supervision of experienced specialists”

The Internship Program period of this Neonatology program consists of a 3-week clinical internship, from Monday to Friday, with 8 consecutive hours of practical specialization, always with an attending specialist. Therefore, this stay will allow graduates to see real patients alongside a team of reference professionals in the area of Neonatology, applying the most innovative procedures and planning the latest generation therapy for each pathology.

In this internship proposal, completely practical in nature, the activities are aimed at developing and perfecting the skills necessary for the provision of healthcare in areas and conditions that require a high level of qualification, and which are oriented to the specific training for the exercise of the activity, in a safe environment for the patient and a high professional performance. It is, without a doubt, an opportunity to learn by working.

The practical teaching will be carried out with the accompaniment and guidance of the professors and other fellow students who facilitate teamwork and multidisciplinary integration as transversal skills for medical practice (learning to be and learning to relate).

The procedures described below will be the basis of the specialization, and their realization will be subject to the center's own availability, its usual activity and workload, the proposed activities being the following:





Module	Practical Activity
Evaluation and Diagnosis	Perform a comprehensive assessment of the Newborn
	Evaluate the vital signs and general condition of the neonate
	Identify neonatal pathologies and complications
	Utilize diagnostic tools specific to Newborns
Clinical Care	Administer appropriate medical and pharmacological treatments
	Apply Neonatal Intensive Care
	Monitor the clinical evolution of the neonate
	Implement Neonatal Resuscitation protocols
Therapeutic Interventions	Placing catheters and probes in neonates
	Perform invasive procedures such as lumbar punctures and thoracentesis
	Manage Mechanical Ventilation and Respiratory Support
	Provide Phototherapy care in cases of jaundice
Communication and Teamwork	Collaborate with other health care professionals in decision making
	Informing and advising parents about their baby's health status
	Participate in multidisciplinary case follow-up meetings
	Effectively document and report on the clinical status of the neonate
Research and Continuous Improvement	Participate in clinical research projects related to neonatology
	Analyze and apply new scientific evidence in daily practice
	Contribute to the development of guidelines and protocols for neonatal care
	Evaluate the effectiveness of treatments and techniques applied in the unit

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the students and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

1. TUTOR: During the Hybrid Professional Master's Degree, students will be assigned two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both practical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the students does not show up on the start date of the Hybrid Professional Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Hybrid Professional Master's Degree will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: the Hybrid Professional Master's Degree shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Hybrid Professional Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. DOES NOT INCLUDE: The Hybrid Professional Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

08

Where Can I Do the Clinical Internship?

This Hybrid Professional Master's Degree program includes in its itinerary a practical stay in a prestigious hospital center, where graduateS will put into practice everything they have learned in Neonatology. In this sense, and in order to bring this program to more professionals, TECH offers students the opportunity to take it in different clinical centers around the country. In this way, this institution strengthens its commitment to quality and affordable education for all.



A city skyline at sunset with a large quote graphic. The image shows a city skyline at sunset, with the sky transitioning from orange and yellow near the horizon to a deep blue at the top. The buildings are illuminated with lights, and the overall scene is vibrant and modern. The quote graphic consists of two large, stylized quotation marks in a light purple color, positioned to the left of the text.


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The practical stay will encourage multidisciplinary teamwork and decision making based on the latest scientific evidence, preparing you to face the challenges of everyday life”

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The student will be able to complete the practical part of this Hybrid Professional Master's Degree at the following centers:



Medicine

IMQ Clínica Zorrotzaurre Bilbao

Country	City
Spain	Vizcaya

Address: Ballets Olaeta Kalea, 4, Deusto,
48014 Bilbao, Vizcaya

Reference center in comprehensive healthcare, committed to
quality and safety

Related internship programs:
-Neonatology





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You will combine theory and professional practice through a demanding and rewarding educational approach”

09

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.



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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.

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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.



10 Certificate

The Hybrid Professional Master's Degree in Neonatology guarantees students, in addition to the most rigorous and up-to-date education, access to a Hybrid Professional Master's Degree issued by TECH Global University.



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

This private qualification will allow you to obtain a **Hybrid Professional Master's Degree in Neonatology** endorsed by **TECH Global University**, the world's largest online university.

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

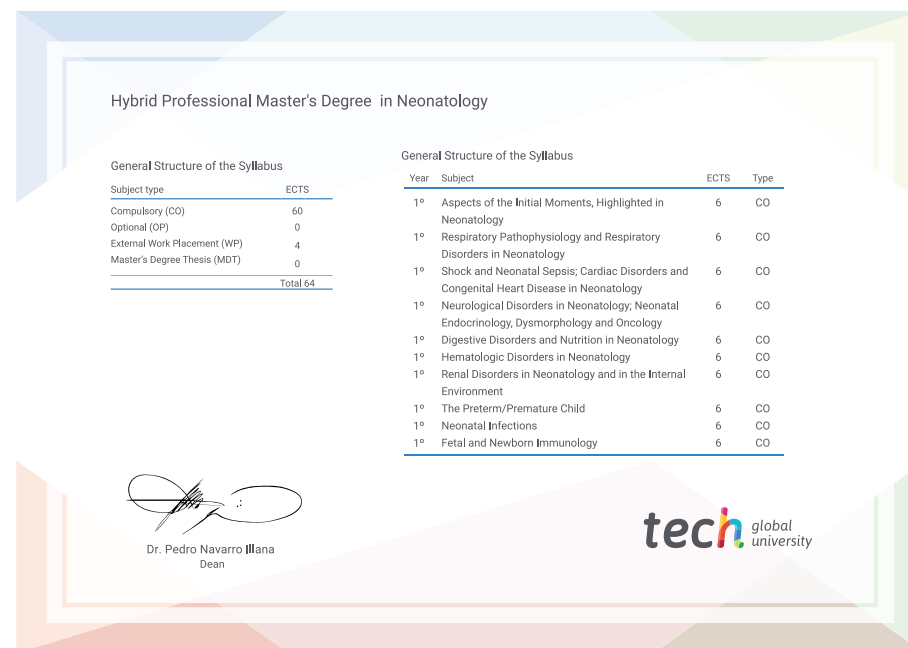
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Hybrid Professional Master's Degree in Neonatology**

Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months.**

Accreditation: **60 + 4 ECTS**



*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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



Hybrid Professional Master's Degree

Neonatology

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

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Hybrid Professional Master's Degree Neonatology