

Professional Master's Degree

Pediatric Emergencies





Professional Master's Degree Pediatric Emergencies

- » Modality: Online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Accreditation: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/medicine/professional-master-degree/master-pediatric-emergencies

Index

01

Introduction to the Program

p. 4

02

Why Study at TECH?

p. 8

03

Syllabus

p. 12

04

Teaching Objectives

p. 20

05

Study Methodology

p. 26

06

Teaching Staff

p. 36

07

Certificate

p. 44

01

Introduction to the Program

Attending to a critically ill child is one of the most challenging situations in Emergency Medicine. The difficulty of obtaining an accurate medical history, performing an objective examination, and having the appropriate equipment makes these cases particularly complex. Even experienced professionals may face uncertainty. According to the International Society for Pediatric Emergency Medicine, proper management of these patients requires ongoing training and specific protocols. This is why TECH offers an innovative university degree that will allow healthcare professionals to refine their skills in Pediatric Emergency Management, ensuring more effective and safer care in high-complexity situations. Additionally, the program is based on a convenient online format.



“

With this 100% online Professional Master's Degree, you will take a comprehensive approach to Pediatric Emergency Medicine and significantly optimize the quality of life of your patients”

Pediatric Emergencies have undergone significant development and professionalization in recent years, requiring physicians to stay updated in order to provide comprehensive care based on the latest scientific evidence. To achieve this, continuous knowledge updates are essential, enabling physicians to act effectively in Pediatric Emergency Services.

Updating knowledge in this field is necessary not only to recognize and resolve emergencies immediately, but also to appropriately guide the management of conditions that require follow-up. The training of physicians in Pediatric Emergencies should include learning and updating essential diagnostic and therapeutic techniques, such as airway management, access to peripheral and central lines, and immobilization of patients with trauma or burns. Additionally, it is key to understand the organization of emergency services, ensuring proper distribution of personnel and resources.

In this context, TECH's Professional Master's degree in Pediatric Emergencies offers medical professionals updated knowledge on the main Pediatric Emergencies, providing tools for managing critically ill patients and using the most advanced diagnostic and treatment techniques. Moreover, its 100% online modality offers flexible training adapted to the needs of each student.

Furthermore, professionals will have exclusive access to Masterclasses delivered by renowned International Guest Directors. These sessions will allow them to strengthen their skills and knowledge in an increasingly in-demand field, ensuring more effective and safer patient care.

This **Professional Master's Degree in Pediatric Emergencies** contains the most complete and up-to-date university program on the market. Its most notable features are:

- ♦ The development of practical case studies presented by experts in Medicine
- ♦ 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
- ♦ Special emphasis on innovative methodologies in the management of audiovisual industries
- ♦ 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



Renowned International Guest Directors will deliver intensive Masterclasses on the latest innovations in Pediatric Emergency Medicine management"

“

You will master the most modern advanced cardiopulmonary resuscitation and pediatric life support techniques, ensuring an optimal response in critical situations”

The teaching staff includes professionals belonging to the field of medicine, who contribute their work experience to this program, as well as renowned specialists from reference societies and prestigious universities.

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 educational experience designed to prepare students for real-life situations.

This program is designed around Problem-Based Learning, whereby students must try to solve the different professional practice situations that arise during the academic year. For this purpose, professionals will be assisted by an innovative interactive video system created by renowned and experienced experts.

Thanks to TECH Relearning you will be able to assimilate the essential concepts in a fast, natural and accurate way.

You will develop advanced skills in the evaluation and management of critically ill pediatric patients, applying updated emergency care protocols.



02

Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs, available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it has a huge faculty of more than 6,000 professors of the highest international prestige.



“

Study at the largest online university in the world and ensure your professional success. The future begins at TECH”

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.



The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.



Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.



The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.



03 Syllabus

This Professional Master's Degree program offers a comprehensive curriculum designed for professionals to approach Pediatric Emergency Medicine based on the latest evidence.

Through structured modules, graduates will delve into the most effective life support and cardiopulmonary resuscitation techniques to stabilize patients. In this way, healthcare providers will be trained to interpret diagnostic tests in real time, administer appropriate treatments based on the pathology, and coordinate with multidisciplinary teams to optimize patient outcomes.



“

Master the latest techniques in Pediatric Emergency Ophthalmology Protocols and become a well-rounded professional in the healthcare field”

Module 1. Healthcare Organization in Response to Common Pediatric Emergencies

- 1.1. Equipment in the Pediatric Emergency Department (PED)
 - 1.1.1. Differential Characteristics of PEDs
 - 1.1.2. Infrastructure, Staffing
 - 1.1.3. Material
- 1.2. Triage in Pediatrics
 - 1.2.1. Definition
 - 1.2.2. Classification Systems
- 1.3. Transport of Critical Pediatric Patient. In-hospital Transfer, Out-of-Hospital Transfer and ISOBAR
- 1.4. Neonatal and Pediatric Transportation

Module 2. Advanced Pediatric and Neonatal Cardiovascular Support

- 2.1. Apparently Lethal Syndromes
 - 2.1.1. Sudden Infant Death
 - 2.1.2. Treatment
 - 2.1.3. Home Monitoring
- 2.2. Recognition and Management of Critically Ill Children
 - 2.2.1. Epidemiology, Etiology and Prevention of CRP in Childhood
 - 2.2.2. Pediatric Assessment Triangle (PAT) and its Utility
 - 2.2.3. Pediatric ABCDE Assessment
- 2.3. Basic Pediatric Cardiopulmonary Resuscitation
- 2.4. Advanced Pediatric Cardiopulmonary Resuscitation. Advanced Airway Management
- 2.5. Basic Concepts of Mechanical Ventilation
- 2.6. Infusion Routes and Drugs
- 2.7. Pediatric Advanced Life Support (PALS) Algorithms and Arrhythmia Treatment
- 2.8. Neonatal Resuscitation
- 2.9. Stabilization, Post-Resuscitation and Neonatal Transportation

Module 3. Invasive Techniques in Common Critically Ill Pediatric Patients

- 3.1. Peripheral and Central Vein Access
 - 3.1.1. Peripheral Route
 - 3.1.2. Central Route
- 3.2. Intraosseous Puncture
- 3.3. Capnography. Pulse Oximetry
- 3.4. Oxygen Therapy
- 3.5. Analgesia and Sedation
 - 3.5.1. Pain Management
 - 3.5.2. Procedure
 - 3.5.3. Reference Drugs in Analgesia and Sedation
- 3.6. Protocol for Child Death
- 3.7. Rapid Sequence Intubation

Module 4. Cardiovascular Emergencies

- 4.1. Arrhythmias and Syncope
 - 4.1.1. Bradyarrhythmias Diagnosis and Treatment
 - 4.1.2. Tachyarrhythmias. Diagnosis and Treatment
- 4.2. Congenital Heart Disease
 - 4.2.1. Cyanotic Congenital Heart Disease
 - 4.2.2. Non-Cyanotic Congenital Heart Disease
 - 4.2.3. Diagnostic Approach
 - 4.2.4. Treatment
- 4.3. Hypertensive Crisis
 - 4.3.1. Diagnostic Guidance for Hypertension in Children and Adolescents
 - 4.3.2. Therapeutic Guidance for Hypertension in Children and Adolescents
- 4.4. Heart Failure
 - 4.4.1. Etiology
 - 4.4.2. Diagnosis
 - 4.4.3. Treatment. Mechanical Ventricular Assistance Techniques. Extracorporeal Membrane Oxygenation (ECMO)

- 4.5. Quick Reading of an ECG
- 4.6. Management of Tachyarrhythmias and Bradyarrhythmias: Electrical Cardioversion and Transcutaneous Pacing
- 4.7. Management of Defibrillable Arrhythmias: Defibrillation

Module 5. Respiratory Emergencies

- 5.1. Respiratory Pathology of Newborns
 - 5.1.1. Incomplete Pulmonary Fluid Reabsorption Syndrome
 - 5.1.2. Meconium Aspiration Syndrome
 - 5.1.3. Hyaline Membrane Disease
 - 5.1.4. Pneumothorax
 - 5.1.5. Pneumonia
 - 5.1.6. Apnea in Newborns
- 5.2. Airway Diseases
 - 5.2.1. Acute Pharyngotonsillitis
 - 5.2.2. Laryngitis or Croup
 - 5.2.3. Spasmodic Croup
 - 5.2.4. Otitis
 - 5.2.5. Sinusitis
- 5.3. Community-Acquired Pneumonia (CAP)
 - 5.3.1. Diagnosis
 - 5.3.2. Hospital Admission Criteria
 - 5.3.3. Latest Advances in Treatment
- 5.4. Managing the Coughing Child. Chronic Cough
 - 5.4.1. Etiology
 - 5.4.1.1. Persistent Bacterial Bronchitis
 - 5.4.1.2. Asthma
 - 5.4.1.3. Gastroesophageal Reflux, etc.
 - 5.4.2. Treatment

- 5.5. Asthma Care in Children
 - 5.5.1. Clinical Diagnosis. Functional Diagnosis
 - 5.5.2. Pharmacological Treatment. Non-Pharmacological Treatment
 - 5.5.3. Health Education
- 5.6. Inhalation Techniques. Oxygen Therapy
- 5.7. Thoracentesis and Chest Tube Placement
- 5.8. Forced Spirometry. Bronchodynamic Tests. PEF (Peak Expiratory Flow)

Module 6. Pediatric Trauma and Osteoarticular Injuries

- 6.1. Initial Pediatric Trauma Care
 - 6.1.1. Types and Patterns of Injury in Pediatrics
 - 6.1.2. Primary and Secondary Assessment
 - 6.1.3. Spinal Cord Injuries
- 6.2. Head Trauma in Children
- 6.3. Lower Extremity Trauma
- 6.4. Upper Limb Trauma
- 6.5. Thoracic Trauma. Rib Fractures and Contusions
- 6.6. Limping
 - 6.6.1. Types of Lameness
 - 6.6.2. Treatment
 - 6.6.3. Referral Criteria
- 6.7. Classification of Pediatric Fractures
- 6.8. Mobilization and Immobilization Workshop
- 6.9. Active Mobilization Stimulation
- 6.10. Hyperpronation
- 6.11. Supination-Flexion
- 6.12. Radial Head Subluxation

Module 7. Unintentional Injuries. Childhood Accidents

- 7.1. Wounds
- 7.2. Burns
- 7.3. Drowning
- 7.4. Stings and Bites
- 7.5. Drug and Non-drug Intoxications
- 7.6. Anaphylaxis
 - 7.6.1. Classification of Severity
 - 7.6.2. Diagnostic Procedures
 - 7.6.3. Treatment and Discharge Recommendations
- 7.7. Extraction of Foreign Body from the Ear
- 7.8. Extraction of Foreign Bodies from the Nose
- 7.9. Freeing of Trapped Penis or Scrotum
- 7.10. Incarcerated Inguinal Hernia Reduction
- 7.11. Reduction of Paraphimosis

Module 8. Neurological Emergencies

- 8.1. Acute Ataxia
- 8.2. Alterations of Consciousness
- 8.3. Acute Headache
 - 8.3.1. Migraine
 - 8.3.2. Tension Headache
 - 8.3.3. Periodic Syndromes of Childhood
- 8.4. Epilepsies and Non-Epileptic Seizure Disorders in Childhood
 - 8.4.1. Epileptic Syndromes in Childhood and Adolescence
 - 8.4.2. General Treatment of Epilepsies
- 8.5. Bacterial and Viral Meningitis
- 8.6. Febrile Seizures
- 8.7. Puncture of the Ventriculoperitoneal Shunt Reservoir
- 8.8. Lumbar Puncture

Module 9. Digestive Emergencies

- 9.1. The Infant with Food Refusal
- 9.2. Acute Abdominal Pain
- 9.3. Gastrointestinal Disorders
- 9.4. Acute Dehydration
 - 9.4.1. Isonatremic Dehydration
 - 9.4.2. Hyponatremic Dehydration
 - 9.4.3. Hypernatremic Dehydration
- 9.5. Acid-Base Balance Disorders
 - 9.5.1. Metabolic Acidosis. Respiratory Acidosis
 - 9.5.2. Metabolic Alkalosis. Respiratory Alkalosis
- 9.6. Celiac Disease
 - 9.6.1. Diagnostic Algorithm
 - 9.6.2. Treatment
- 9.7. Gastroesophageal Reflux (RGE)
- 9.8. Constipation
- 9.9. Hepatitis
 - 9.9.1. HAV, HBV, HCV, HDV, HEV
 - 9.9.2. Autoimmune Hepatitis
- 9.10. Gastrointestinal Bleeding
- 9.11. Jaundice

Module 10. Endocrine and Metabolic Emergencies

- 10.1. Emergencies in the Diabetic Patient
- 10.2. Hydroelectrolytic Alterations
- 10.3. Adrenal Insufficiency

Module 11. Infectious Emergencies

- 11.1. Exanthematous Diseases
- 11.2. Whooping Cough and Pertussis-Like Syndrome
 - 11.2.1. Pharmacological Treatment
 - 11.2.2. Control Measures
- 11.3. Febrile Syndrome without Focus
- 11.4. Sepsis. Septic Shock
- 11.5. Osteoarticular Infections
- 11.6. Fever and Neutropenia

Module 12. Ophthalmic and Otolaryngologic Emergencies

- 12.1. Conjunctivitis and Blepharitis. Red Eye
 - 12.1.1. Most Frequent Infectious Pathology
 - 12.1.2. Non-Infectious Pathology
 - 12.1.3. Pediatric Ophthalmic Emergency Protocol
- 12.2. Eyelids and Lacrimal System
 - 12.2.1. Palpebral Alterations and Malformations
 - 12.2.2. Inflammatory Pathology
 - 12.2.3. Cysts and Tumors
 - 12.2.4. Lacrimal Pathology in Children
 - 12.2.5. Palpebral Trauma in Childhood
- 12.3. Acute Pharyngotonsillitis. Acute Otitis Media Sinusitis
- 12.4. Extraction of Foreign Bodies from the Eye
- 12.5. Ophthalmologic Examination with Fluorescein
- 12.6. Eversion of the Upper Eyelid

Module 13. Pediatric Dermatological Emergencies

- 13.1. Bacterial Infections in Pediatrics
 - 13.1.1. Contagious Impetigo
 - 13.1.2. Folliculitis, Furunculosis and Carbuncles
 - 13.1.3. Perianal Streptococcal Dermatitis
- 13.2. Viral Infections in Pediatrics
 - 13.2.1. Human Papiloma Virus
 - 13.2.2. Molluscum Contagiosum
 - 13.2.3. Herpes Simplex
 - 13.2.4. Shingles
- 13.3. Mycotic Infections in Pediatric Dermatology
 - 13.3.1. Tinea
 - 13.3.2. Candidiasis
 - 13.3.3. Pityriasis Versicolor
- 13.4. Infestations in Pediatric Dermatology
 - 13.4.1. Pediculosis
 - 13.4.2. Scabies
- 13.5. Eczema. Atopic Dermatitis

Module 14. Renal and Urological Emergencies

- 14.1. Urinary Infections
 - 14.1.1. Diagnostic Criteria
 - 14.1.2. Referral Indications
- 14.2. Hematuria
- 14.3. Renal Lithiasis and Renal Colic
- 14.4. Acute Scrotum
 - 14.4.1. Frequency in the Pediatric Age Group
- 14.5. Suprapubic Puncture
- 14.6. Bladder Catheterization
- 14.7. Reduction of Paraphimosis

Module 15. Special Situations in Pediatric Emergencies

- 15.1. Children with Special Needs
 - 15.1.1. Tracheostomy and Home Mechanical Ventilation
 - 15.1.2. Gastrostomies and Feeding Tubes
 - 15.1.3. Peritoneal Ventriculo-Peritoneal Shunt Valves
 - 15.1.4. Central Catheters and Prosthetic Vascular Accesses
- 15.2. Medication in Pediatrics
- 15.3. Psychiatry in the Emergency Department
 - 15.3.1. Assessment and Initial Treatment
 - 15.3.2. Psychomotor Agitation and Violence
 - 15.3.3. Suicidal Behavior
 - 15.3.4. Psychotic Disorders
- 15.4. Child Abuse
 - 15.4.1. Attitude in the Emergency Room
 - 15.4.2. Assistance in the Case of Abuse
- 15.5. Techniques and Procedures. Mechanical Restraint of the Agitated or Aggressive Child

Module 16. Current Status of Coronavirus Infections

- 16.1. Discovery and Evolution of Coronaviruses
 - 16.1.1. Discovery of Coronaviruses
 - 16.1.2. Global Trends in Coronavirus Infections
- 16.2. Main Microbiological Characteristics and Members of the Coronavirus Family
 - 16.2.1. General Microbiological Characteristics of Coronaviruses
 - 16.2.2. Viral Genome
 - 16.2.3. Principal Virulence Factors
- 16.3. Epidemiological Changes in Coronavirus Infections from Discovery to the Present
 - 16.3.1. Morbidity and Mortality of Coronavirus Infections from their Emergence to the Present
- 16.4. The Immune System and Coronavirus Infections
 - 16.4.1. Immunological Mechanisms Involved in the Immune Response to Coronaviruses
 - 16.4.2. Cytokine Storm in Coronavirus Infections and Immunopathology
 - 16.4.3. Modulation of the Immune System in Coronavirus Infections





- 16.5. Pathogenesis and Pathophysiology of Coronavirus Infections
 - 16.5.1. Pathophysiological and Pathogenic Alterations in Coronavirus Infections
 - 16.5.2. Clinical Implications of the Main Pathophysiological Alterations
- 16.6. Risk Groups and Transmission Mechanisms of Coronaviruses
 - 16.6.1. Main Sociodemographic and Epidemiological Characteristics of Risk Groups Affected by Coronavirus
 - 16.6.2. Coronavirus Mechanisms of Transmission
- 16.7. Natural History of Coronavirus Infections
 - 16.7.1. Stages of Coronavirus Infection
- 16.8. Updated Microbiological Diagnosis of Coronavirus Infections
 - 16.8.1. Sample Collection and Shipment
 - 16.8.2. PCR and Sequencing
 - 16.8.3. Serology Testing
 - 16.8.4. Virus Isolation
- 16.9. Current Biosafety Measures in Microbiology Laboratories for Coronavirus Sample Handling
 - 16.9.1. Biosafety Measures for Coronavirus Sample Handling
- 16.10. Up-to-Date Management of Coronavirus Infections
 - 16.10.1. Prevention Measures
 - 16.10.2. Symptomatic Treatment
 - 16.10.3. Antiviral and Antimicrobial Treatment in Coronavirus Infections
 - 16.10.4. Treatment of Severe Clinical Forms
- 16.11. Future Challenges in Prevention, Diagnosis, and Therapy of Coronavirus Infections
 - 16.11.1. Global Challenges for the Development of Prevention, Diagnostic, and Treatment Strategies for Coronavirus Infections

04 Teaching Objectives

This university degree is designed to ensure that professionals acquire the essential competencies for effective care in pediatric emergencies. First and foremost, it aims to strengthen early recognition and timely intervention in critical situations. Furthermore, it promotes mastery of advanced diagnostic and treatment techniques, ensuring evidence-based practice. It also encourages the development of decision-making skills in high-pressure environments. Ultimately, it fosters leadership in the management of Pediatric Emergencies, enabling graduates to actively contribute to the improvement of pediatric healthcare.



“

You will act effectively in traumatological emergency situations, optimizing the initial management of the polytraumatized child”



General Objectives

- ♦ Understand the organization and management of the Pediatric Emergency Department to optimize care in critical situations
- ♦ Apply advanced resuscitation and life support techniques in pediatric and neonatal emergencies
- ♦ Respond quickly to pediatric cardiological emergencies, including arrhythmias and decompensated congenital heart diseases
- ♦ Manage neurological crises such as seizures, traumatic brain injuries, and acute neuromuscular diseases
- ♦ Address major pediatric hematological and oncological emergencies
- ♦ Apply initial management strategies in pediatric poisonings and exposure to toxic substances
- ♦ Perform invasive pediatric procedures with safety and precision in the Emergency Department
- ♦ Understand the impact of the Coronavirus on the pediatric population and apply care protocols in cases of severe infection





Specific Objectives

Module 1. Healthcare Organization in Response to Common Pediatric Emergencies

- ◆ Identify the different elements of equipment in the Pediatric Emergency Department
- ◆ Practice patient selection based on various triage systems
- ◆ Describe the systems for transporting critically ill pediatric patients
- ◆ Understand the differential organizational and management characteristics of Pediatric Emergency Services

Module 2. Advanced Pediatric and Neonatal Cardiovascular Support

- ◆ Identify the signs and symptoms of major life-threatening syndromes and recognize the critically ill child
- ◆ Update the latest recommendations for performing basic and advanced cardiopulmonary resuscitation maneuvers and complete upper airway obstruction by a foreign body
- ◆ Review the various routes for drug administration and their indication in each case
- ◆ Determine key aspects of establishing the pediatric airway, rapid intubation sequence, difficult airway, and new facilitating devices

Module 3. Invasive Techniques in Common Critically Ill Pediatric Patients

- ◆ Establish procedures for capnography and pulse oximetry
- ◆ Study the phases, characteristics, and development of sedation and analgesia procedures

Module 4. Cardiovascular Emergencies

- ◆ Identify and classify major acute coronary syndromes in pediatric patients for timely intervention
- ◆ Apply diagnostic and management protocols for arrhythmias and cardiac rhythm disturbances in emergencies
- ◆ Recognize the signs and symptoms of acute heart failure in children and establish an appropriate treatment plan

Module 5. Respiratory Emergencies

- ◆ Identify and manage the main causes of acute respiratory failure in pediatric patients effectively
- ◆ Apply diagnostic and treatment protocols for asthma, bronchiolitis, and pneumonia in the Emergency Department
- ◆ Recognize signs of airway obstruction and perform appropriate obstruction maneuvers based on the patient's age
- ◆ Properly use oxygen therapy devices and non-invasive mechanical ventilation in respiratory emergency situations

Module 6. Pediatric Trauma and Osteoarticular Injuries

- ◆ Assess and classify pediatric trauma based on severity for timely care in the emergency department
- ◆ Recognize signs of fractures and dislocations in pediatric patients, differentiating those requiring surgical treatment
- ◆ Implement immobilization and stabilization techniques for osteoarticular injuries to prevent complications and facilitate recovery

Module 7. Unintentional Injuries. Childhood Accidents

- ♦ Learn medical procedures to resolve potentially dangerous situations safely
- ♦ Analyze specific action protocols for pediatric patients with fever, according to age
- ♦ Increase the ability to manage children or adolescents with acute intoxication
- ♦ Determine management procedures for children with anaphylactic reactions, their severity, clinical manifestations, and diagnostic procedures

Module 8. Neurological Emergencies

- ♦ Identify and differentiate major pediatric neurological emergencies such as seizures, meningitis, and traumatic brain injury
- ♦ Apply action protocols for seizures and epileptic states to ensure quick and effective intervention
- ♦ Evaluate neurological warning signs in children for early diagnosis of serious pathologies such as encephalitis or intracranial hemorrhages
- ♦ Implement stabilization and monitoring strategies for pediatric patients with acute neurological compromise

Module 9. Digestive Emergencies

- ♦ Determine the latest approaches to managing celiac disease in children
- ♦ Address management procedures for children with food rejection and relate it to different gastrointestinal pathologies
- ♦ Review the latest advances in diagnostic and therapeutic procedures for infections caused by hepatitis viruses: HAV, HBV, HCV, HDV, HEV
- ♦ Incorporate techniques for incarcerated hernia reduction, gastric intubation, and managing children with ostomies

Module 10. Endocrine and Metabolic Emergencies

- ♦ Identify and manage pediatric endocrine emergencies such as diabetic ketoacidosis, adrenal insufficiency, and thyroid crises
- ♦ Apply stabilization and treatment protocols for acute metabolic disorders, including severe hypoglycemia and hyperglycemia
- ♦ Evaluate clinical signs and key diagnostic tests for the early management of pediatric hydroelectrolytic imbalances
- ♦ Implement monitoring and support strategies for pediatric patients with critical endocrine or metabolic decompensation

Module 11. Infectious Emergencies

- ♦ Identify and manage severe infections in pediatrics such as sepsis, meningitis, and pneumonia, applying updated protocols
- ♦ Recognize warning signs in viral and bacterial infections to optimize diagnosis and timely treatment
- ♦ Apply prevention, isolation, and infection control measures in pediatric emergency settings
- ♦ Select and administer appropriate antimicrobial treatments based on the type of infection, bacterial resistance, and the patient's clinical status

Module 12. Ophthalmic and Otolaryngologic Emergencies

- ♦ Identify and manage pediatric ophthalmic emergencies such as severe conjunctivitis, trauma, or foreign bodies in the eye
- ♦ Diagnose and treat complex otolaryngological conditions
- ♦ Apply initial management protocols for pathologies compromising vision or hearing, ensuring prompt and effective care

Module 13. Pediatric Dermatological Emergencies

- ♦ Analyze major pediatric dermatological emergencies, including urticaria, angioedema, and severe allergic reactions
- ♦ Differentiate acute cutaneous infections in children, such as cellulitis, impetigo, and abscesses, for timely treatment
- ♦ Implement initial management strategies for burns, contact dermatitis, and adverse skin reactions to medications
- ♦ Detect signs of severity in pediatric dermatological conditions that could indicate systemic complications

Module 14. Renal and Urological Emergencies

- ♦ Identify major pediatric nephrourological emergencies such as urinary tract infections, nephritic colic, and urinary obstruction
- ♦ Apply diagnostic and treatment protocols for acute renal failure and hydroelectrolytic disturbances
- ♦ Recognize critical situations in pediatric nephrourological pathologies requiring specialist referral

Module 15. Special Situations in Pediatric Emergencies

- ♦ Analyze the particularities of pediatric emergencies in special situations such as immunocompromised patients or those with rare diseases
- ♦ Evaluate the severity and risks in emergencies related to intoxications, anaphylaxis, and adverse drug reactions
- ♦ Apply intervention protocols for cases of child abuse, neglect, or maltreatment for timely and appropriate action
- ♦ Differentiate the specific needs and approaches for pediatric emergencies during natural disasters, mass accidents, or health crises

Module 16. Current Status of Coronavirus Infections

- ♦ Explore the latest advances in the diagnosis and treatment of coronavirus infections in the pediatric population
- ♦ Compare the clinical manifestations of COVID-19 and other viral infections in children for optimized management
- ♦ Update on prevention, control, and management strategies for coronavirus outbreaks in pediatric settings
- ♦ Examine potential long-term sequelae and complications of COVID-19 in pediatric patients



You will expertly manage the drugs used in Pediatric Emergencies, adjusting doses safely and efficiently”

05 Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.



“

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”

The student: the priority of all TECH programs

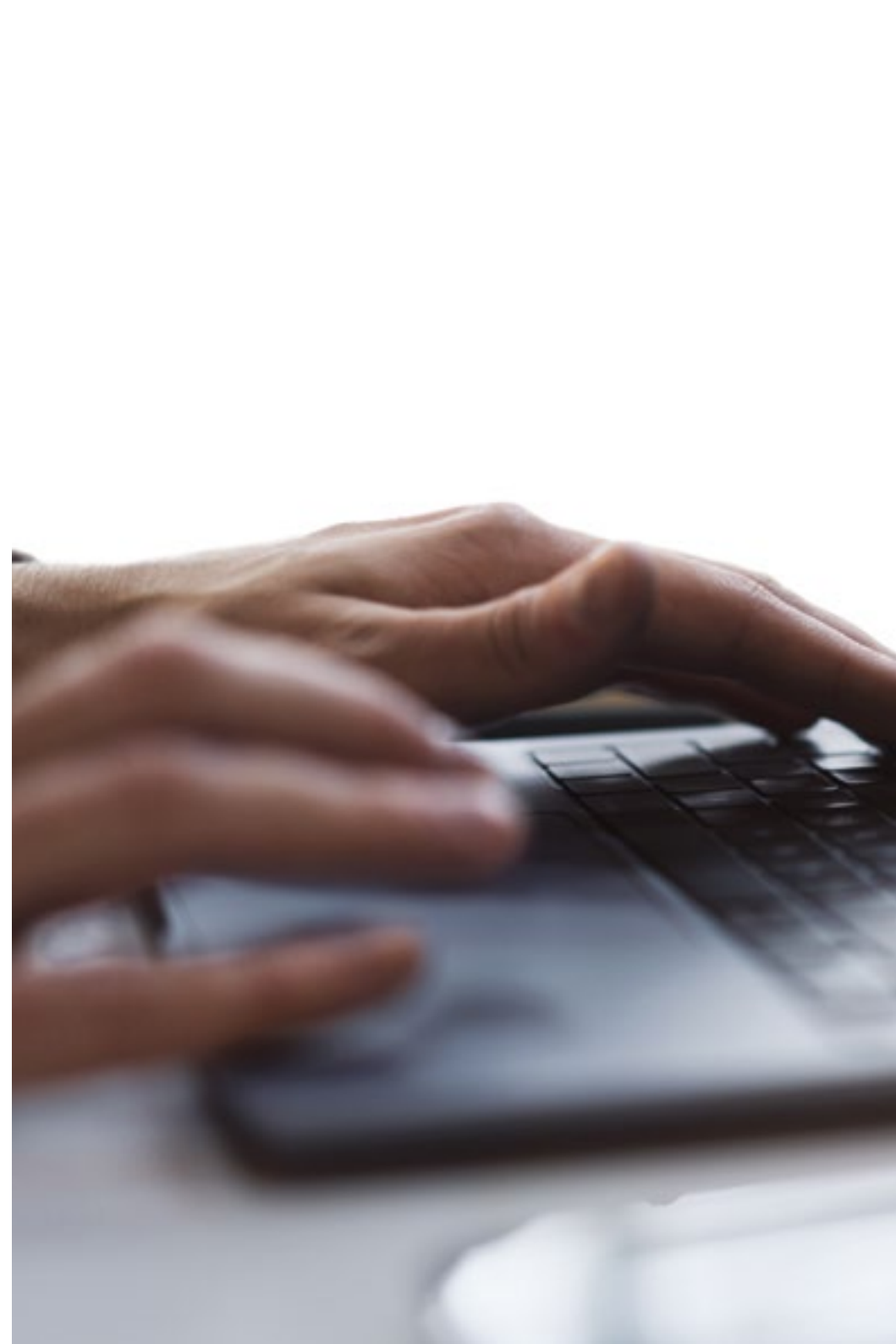
In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

“

*At TECH you will NOT have live classes
(which you might not be able to attend)”*



The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

“*TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want*”

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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.



A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

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 assess 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.

The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.



As such, the best educational materials, thoroughly prepared, will be available in this program:



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.

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.



Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



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.

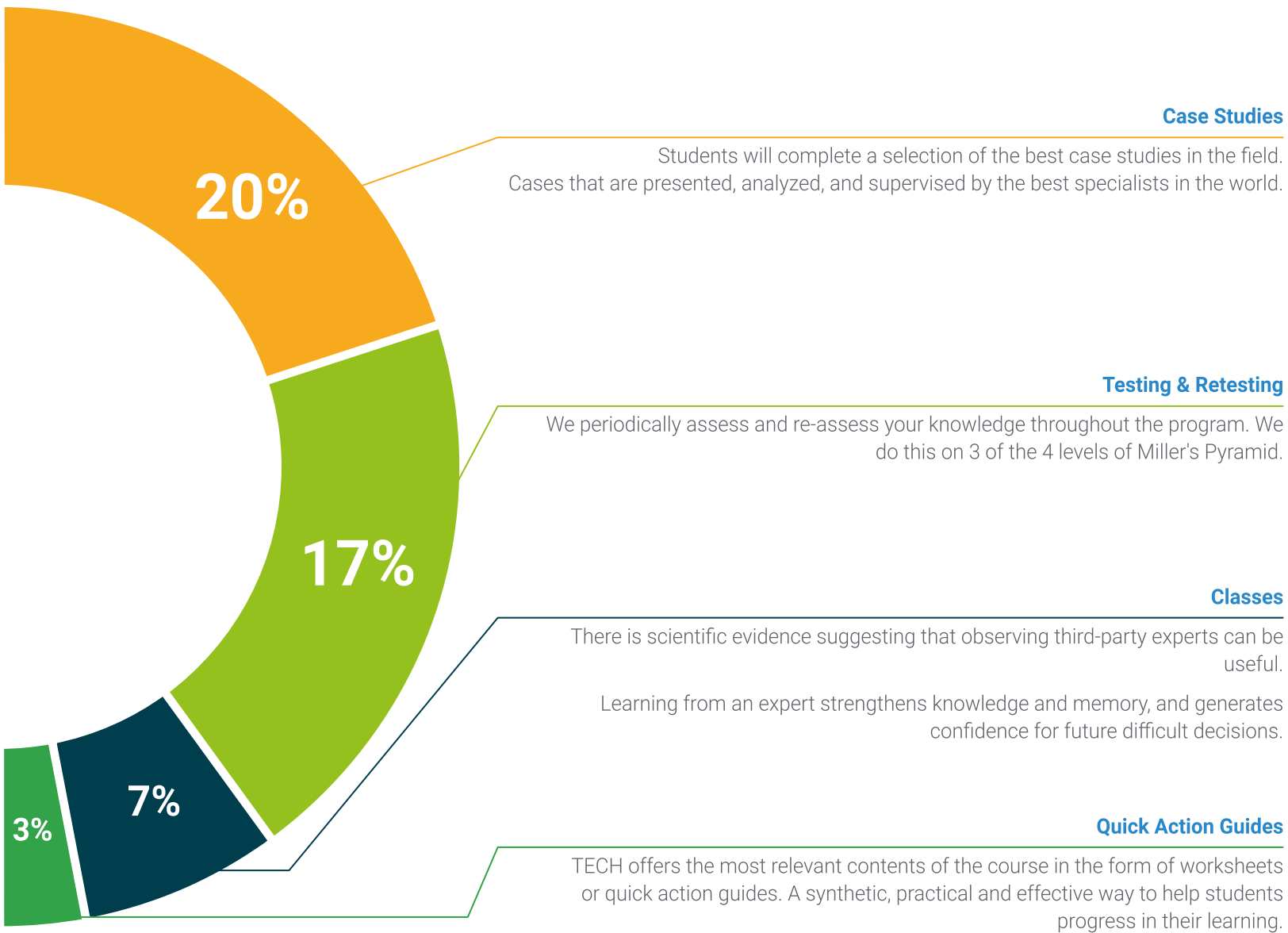
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





06

Teaching Staff

The teaching staff for this program consists of leading experts in Pediatric Emergency Medicine, who bring their extensive clinical experience and specialized knowledge. Additionally, distinguished professionals from various complementary fields enrich the content with an interdisciplinary approach. Their involvement ensures up-to-date, high-level education, ensuring that each student receives instruction from specialists with a solid track record in the sector.



“

Experts with a strong background in research, diagnosis, and treatment of infections will share their expertise to foster your professional growth.

International Guest Director

Dr. Todd Florin is a recognized Pediatric Emergency Physician **and** clinical epidemiologist, **expert in** Lower Respiratory Tract Infections **in children, especially in the field of** Bronchiolitis **and** Pneumonia. In addition, at international level, he is a leader in the use of biomarkers and predictive analysis to improve the diagnosis and treatment of these conditions.

In this way, he has served as Director of Research in Emergency Medicine at the Ann & Robert H. Lurie Children's Hospital in Chicago. Moreover, at the same hospital, he has directed the Grainger Research Program in Pediatric Emergency Medicine, where he has led key projects, such as the CARPE DIEM study (*Catalyzing Ambulatory Research in Pneumonia Etiology and Diagnostic Innovations in Emergency Medicine*), a pioneering investigation of community-acquired Pneumonia, as well as other global studies, such as PERN, focused on understanding the severity of Pneumonia and the impact of COVID-19 in children.

Dr. Todd Florin has also received numerous awards for his outstanding medical and research work, including the Young Investigator Award from the *Academic Pediatric Association*, and has been recognized for his research leadership and mentorship at renowned institutions such as Cincinnati Children's Hospital Medical Center. His vision of combining translational science with clinical care has driven significant advances in the management of Pediatric Respiratory Infections.

In fact, his work has been endorsed by prestigious institutions such as the National Heart, Lung and Blood Institute and the National Institute of Allergy and Infectious Diseases. Likewise, his focus on Precision Medicine has transformed the way Respiratory Infections in children are managed, contributing to the reduction of unnecessary antibiotic use.



Dr. Florin, Todd

- Director of Emergency Medicine Research, Ann & Robert H. Lurie Children's Hospital, Chicago, United States
- Chief of the Grainger Research Program in Pediatric Emergency Medicine at Ann & Robert H. Lurie Children's Hospital
- Assistant Physician, Division of Emergency Medicine, Ann & Robert H. Lurie Children's Hospital
- Principal Investigator of the *Catalyzing Ambulatory Research in Pneumonia Etiology and Diagnostic Innovations in Emergency Medicine Study* (CARPE DIEM)
- Director of Strategy and Operations at the Society for Pediatric Research
- Specialist in Pediatric Emergency Medicine at the Children's Hospital of Philadelphia
- Doctor of Medicine from the University of Rochester
- Master's Degree in Clinical Epidemiology by the the University of Pennsylvania
- B.A. in Music from the University of Rochester
- Young Investigator Award from the Academic Pediatric Association
- Member of: *Academic Pediatric Association, American Academy of Pediatrics, Pediatric Infectious Diseases Society, Society for Academic Emergency Medicine, Society for Pediatric Research*



Thanks to TECH, you will be able to learn with the best professionals in the world"

Guest Director



Dr. Sánchez Díaz, Juan Ignacio

- Head of PICU and Pediatric Emergency Department at the 12 de Octubre University Hospital
- Specialist in General Pediatrics at the SENDA Maternity and Children's Medical Center
- Specialist in the Treatment of the Critically Ill Child
- Accreditation in Pediatric Intensive Care, Spanish Association of Pediatrics
- 80 publications in international scientific journals
- Speaker at congresses and meetings such as the XXVII SOMIAMA Meeting
- Member of the medical scientific committee of the XXXV and XXXII Congress of the Spanish Society of Pediatric Intensive Care (SECIP)
- Member of: Spanish Society of Pediatric Intensive Care (SECIP) and the Technical Assistance Board of the 12 de Octubre University Hospital

Management



Dr. Castaño Rivero, Antón

- ♦ Pediatrician.
- ♦ Attending Physician of the Pediatric Emergency Department at Cabueñes University Hospital
- ♦ CPR Instructor and Course Director, accredited by the Spanish Group of Pediatric and Neonatal CPR
- ♦ Accredited in the subspecialty of Pediatric Emergency Medicine by the Spanish Association of Pediatrics (AEP)
- ♦ Former President of the Spanish Society of Pediatric Emergency Medicine.
- ♦ Master's Degree in Emergencies and Acute Pathology in Pediatrics, Autonomous University from Madrid

Teachers

Dr. Álvarez González, Diana

- ♦ Assistant Physician in the Pediatrics Department at Cabueñes Hospital
- ♦ Specialist in Pediatrics and its Specialized Areas.
- ♦ Assistant Physician of the Pediatric Emergency Department of Cabueñes Hospital
- ♦ Master's Degree in Pediatric Emergencies by the International University of Andalucía

Dr. Benito Pastor, Helvia

- ♦ American Academy of Pediatrics APLS Course Instructor
- ♦ Assistant Physician of the Pediatric Emergency Department of the Río Hortega University Hospital
- ♦ Pediatric Adjunct Physician at Nuestra Señora de Sonsoles Hospital
- ♦ Master's Degree in Research Methodology: Design and Statistics in Health Sciences and in Research Methodology in Health Sciences Autonomous University of Barcelona

Dr. Díez Monge, Nuria

- ♦ Assistant Physician of the Pediatrics Service at the Río Hortega Hospital in Valladolid, Castilla y León
- ♦ Author of the book 'Incidence, prevalence and annual risk of tuberculosis infection in children aged 6-7 years in the city of Valencia'
- ♦ She was part of the local committee and the organizing committee of the XXIV Annual Meeting of the Spanish Sleep Society
- ♦ XXXVII Meeting of the Spanish Society of Pediatric Pulmonology

Dr. Lombráña Álvarez, Emma

- ♦ Pediatrician.
- ♦ Attending Physician of the Pediatric Emergency Department at Cabueñes University Hospital
- ♦ Member of the Spanish Society of Pediatric Emergency Medicine and the Spanish Association of Pediatrics
- ♦ Speaker and author of several lines of research focused on neurological diseases

Dr. Fernández Álvarez, Ramón

- ♦ Pediatrician.
- ♦ Attending Physician of the Pediatric Emergency Department at Cabueñes University Hospital. Gijón
- ♦ Course Director of the American Academy of Pediatrics Emergency Medicine Course APLS (Advanced Pediatric Life Support)

Dr. Fernández Arribas, José Luis

- ♦ Pediatrician.
- ♦ Assistant Physician, Pediatric Emergency Department, Río Hortega University Hospital(Valladolid, Castilla y León)
- ♦ Resident Doctor in SACYL
- ♦ Pediatric and Neonatal CPR Instructor. APLS instructor. Pediatric Simulation Instructor
- ♦ Instructor of the Pediatric Emergency Course of the American Academy of Pediatrics and the SEUP course Analgesia and Sedation in the Pediatric Patient in Emergency for Non-Anesthesiologists
- ♦ He has been a member of the SEUP board of directors at the XXIV Meeting of the Spanish Society of Pediatric Emergency Medicine
- ♦ Co-author of the book *Pediatría Básica para Padres* (Basic Pediatrics for Parents) and several publications
- ♦ Speaker at several pediatric congresses

Dr. González Calvete, Laura

- ♦ Pediatrician.
- ♦ Attending Physician of the Pediatric Emergency Department at Cabueñes University Hospital
- ♦ Pediatric Basic and Advanced CPR Instructor
- ♦ Specialist Pediatrician at San Agustín Hospital
- ♦ Primary Care Pediatrician Area V
- ♦ Pediatrician at the Hospital of Jarrio
- ♦ Medical Intern Resident at the Santiago de Compostela University Hospital Complex
- ♦ Co-author of several publications on Pediatric Emergencies

Dr. González Martín, Leticia

- ♦ Assistant Physician of the Pediatric Emergency Department of the Río Hortega University Hospital
- ♦ Instructor in Pediatric and Neonatal CPR.
- ♦ Pediatric observer in the Neonatal Intensive Care Unit
- ♦ Neonatology Unit Physician in at the 12 de Octubre Hospital.
- ♦ Physician in the Treatment Intensive Care Unit of the Vall d'Hebron Hospital
- ♦ Diploma in Statistical Research Methodology from the Autonomous University Barcelona
- ♦ Graduate in Medicine and Surgery from the University of Valladolid
- ♦ Member of: Spanish Association of Primary Care Pediatrics

Dr. Salamanca Zarzuela, Beatriz

- ♦ Medical Specialist in Pediatric Cardiology and Congenital Heart Disease
- ♦ Assistant Physician of the Pediatric Emergency Department of the Río Hortega University Hospital
- ♦ Pediatrician at the Medina del Campo County Hospital
- ♦ Specialist in Pediatric Cardiology at the Carrión de Palencia Hospital
- ♦ Doctorate in Medicine from UVA
- ♦ Bachelor's Degree in Medicine from UVA
- ♦ Master's Degree in Pediatric Cardiology and Congenital Heart Disease by the UAM

Dr. Campo Fernández, Nathalie

- ♦ American Academy of Pediatrics APLS Course Instructor
- ♦ Specialist in Pediatrics and its specific areas
- ♦ Assistant Physician of the Pediatric Emergency Department of the Río Hortega University Hospital
- ♦ Pediatric Emergency Safety Trainer

Dr. Suárez Castañón, Cristina

- ♦ Specialist in Pediatrics for the Health Service of the Principality of Asturias (SESPA)
- ♦ Attending Physician of the Pediatric Emergency Department at Cabueñes University Hospital
- ♦ Doctor in Pediatrics
- ♦ Bachelor's Degree in Medicine
- ♦ Member of: Pediatric Society of Emergency Medicine and Asturian Association of Primary Care Pediatrics

Dr. Velasco Zúñiga, Roberto

- ♦ Assistant Physician of the Pediatric Emergency Department at the University Hospital Río Hortega, Valladolid
- ♦ Pediatric Emergency Physician at the University Hospital de Cruces, Basque Country
- ♦ Author of several books and medical publications
- ♦ Speaker at congresses and scientific events such as the I Digital Congress of the Spanish Association of Pediatrics
- ♦ Doctor of Medicine
- ♦ Specialist Pediatrician
- ♦ Degree in Medicine from the University of Valladolid
- ♦ Master's Degree in Health Care Quality and Safety Management and Methodology
- ♦ Master's Degree in Research Methodology
- ♦ Member of: Spanish Society of Pediatric Emergencies, Spanish Association of Pediatrics, Regional Health Management of Castilla y León

07 Certificate

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



“

*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 **Professional Master's Degree in Pediatric Emergencies** 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: **Professional Master's Degree in Pediatric Emergencies**

Modality: **Online**

Duration: **12 months.**

Accreditation: **60 ECTS**





Professional Master's Degree Pediatric Emergencies

- » Modality: Online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Accreditation: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Professional Master's Degree

Pediatric Emergencies