



Professional Master's Degree

Pediatric Neurology and Neurodevelopment

» Modality: online

» Duration: 12 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/medicine/professional-master-degree/master-pediatric-neurology-neurodevelopment

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In recent years we have witnessed a considerable increase in the demand for neuropediatric care, which can be justified for several reasons.

On the one hand, the continuous advances in neurosciences have led to the discovery and diagnosis of previously unknown neurological diseases. This has led to the death of children or the development of severe sequelae.

On the other hand, the appearance of social changes and advances have led to new care demands that had been previously underdeveloped. The rise of assisted reproduction and the improvement of neonatal care techniques lead to a higher rate of multiple and premature births with increased survival rates. This leads to increased morbidity and the need for more specialized care at both the health and educational levels.

General pediatricians cannot encompass the complexity of all pediatric subspecialties. As they progress in their development, each one of them acquires a specific body and entity to become its own specialty. In addition, the particularities of child development and its variability according to age and other factors do not allow neurologists for adults to cope with the existing demand.

All this, together with the great diversity and complexity of neurological disorders in childhood, means that more and more neuropediatric units are needed and the demand for highly trained professionals in this area is increasing.

The weight of neuropediatrics within general pediatrics almost exceeds 25% of the overall demand in specialized care units in our country. This figure, together with the significant increase in overall pediatric demand and despite the current birth rate, suggests a significant increase in the coming years.

More and more authors are reporting an increase in the diagnosis of various neurological pathologies typical of childhood, such as disorders within the autism spectrum, learning disabilities, and even neoplasms affecting the central nervous system. This is leading to the development of units structured on the basis of care processes oriented towards specific pathologies and therefore to a need for extremely high need specialization.

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

- 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
- Diagnostic-therapeutic developments on assessment, diagnosis, and treatment in pediatric neurology and neurodevelopment
- It contains practical exercises where the self-evaluation process can be carried out to improve learning
- Iconography of clinical and diagnostic imaging tests
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- With special emphasis on evidence-based medicine and research methodologies in pediatric neurology and neurodevelopmental neurology
- 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



Update your knowledge with the Professional Master's Degree in Pediatric Neurology and Neurodevelopment"

Introduction | 07 tech



This Professional Master's Degree may be the best investment you can make when selecting a refresher program, for two reasons: in addition to updating your knowledge of Pediatric Neurology and Neurodevelopment, you will obtain a qualification from TECH Technological University"

The teaching staff includes professionals from the field of Pediatric Neurology and Neurodevelopment, who bring their experience to this program, as well as renowned specialists from leading scientific communities.

Thanks to its multimedia content developed with the latest educational technology, it will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to prepare in real situations.

The design of this program is based on Problem-Based Learning, through which the physician must try to solve the different professional practice situations that arise throughout the academic course. For this purpose, the physician will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field of Pediatric Neurology and Neurodevelopment with extensive teaching experience.

This Professional Master's Degree offers education in simulated environments, which provides an immersive learning experience designed to prepare for reallife situations.

It includes clinical cases to bring the program as close as possible to the reality of medical care.







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General objectives

- Update specialist knowledge in the different syndromic disorders in this discipline through evidence-based medicine
- Promote work strategies based on a comprehensive approach and multidisciplinary care in the patient's social environment that become a reference model for achieving excellence in care
- Encourage the acquisition of technical skills and abilities, through a powerful audiovisual system, and the possibility of development through online simulation workshops and/or specific training
- Encourage professional stimulation through continuous education and research



Seize the opportunity and take the step towards becoming up to date on the latest developments in Pediatric Neurology and Neurodevelopment"



Specific objectives

Module 1. Update on Neurology Consultations

- Perform a correct anamnesis in pediatric neurology
- Apply neurological assessment scales

Module 2. Advances in Prenatal and Neonatal Neurology

- Explain the procedure for neurological examination of newborns and infants
- Identify the clinical neurological examinations performed in newborns and in children up to one year of age

Module 3. Advances in Central and Peripheral Motor Disorders

- Explain how to thoroughly and rigorously perform psychomotor developmental assessment
- Identify warning signs in the evaluation of psychomotor development

Module 4. Update on Inborn Errors of Metabolism

- Explain the usefulness of genetic studies and biochemical studies
- Identify the main congenital diseases
- Diagnose the metabolism of the patients and identify their deficiencies

Module 5. Advances in Developmental, Learning and Neuropsychiatric Disorders

- Describe the application of diagnostic imaging in neurodevelopmental assessment and neuropathology
- Define the correct neuropsychological examination for school children

Module 6. Update on Neurosurgical Pathology in Pediatric Neurology

- Explain the use of neurophysiological studies in the diagnosis and evaluation in neuropediatrics
- Describe electroencephalogram execustion and assessment
- Explain the application of visual, truncal and somatosensory evoked potentials in neuropediatrics
- Define the use of the Electroneurogram (ENG) in neuropediatrics

Module 7. Advances in Infectious, Parainfectious, Inflammatory and/or Autoimmune Diseases of the Nervous System

- Describe congenital bacterial infections that can cause neurological and neurodevelopmental involvement
- Identify congenital parasite infections with neurological repercussions
- Explain the causes of neurological involvement when related to congenital viral infections

Module 8. Malformations, Chromosomal Disorders and Other Genetic Disorders of the CNS

- Describe the main central nervous system abnormalities
- Describe the etiology and risk factors of cerebral palsy
- Explain the consequences of aminoacidopathies and organic acidemias in neuropediatrics
- Describe the symptoms, diagnosis and treatment of psychomotor developmental delay and mental retardation

Module 9. Advances in Related Areas. Neuro-Ophthalmology, Neurotology, Nutrition

- Explain Juvenile Myasthenia Gravis and other neuromuscular junction disorders
- Identify the main disorders that occur in child patients and analyze their derivations
- Delve into neurophthalmology, neurotology and nutrition and their direct impact on the patient

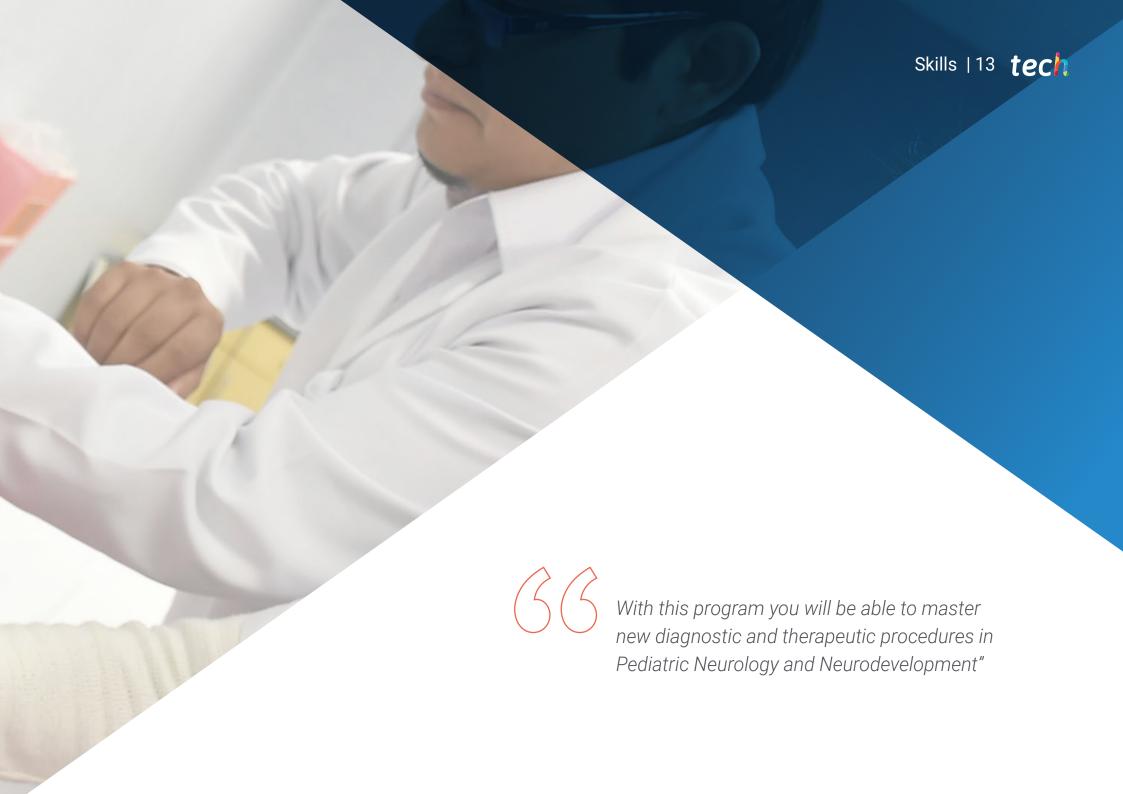
Module 10. Advances in Neurological Emergencies

- Define the diagnosis and treatment of learning disorders
- Classify the Primary Tumors in the Nervous System
- Explain the treatment of Primary Tumors in the Nervous System
- Define nutritional recommendations in neurological pathologies

Module 11. Advances in Paroxysmal Disorders

- Describe the symptomatology and appropriate treatment for children with bowel and bladder control disorders
- Describe the symptomatology and appropriate treatment for children with sleep disorders
- Describe epilepsy according to the stages of child development
- Explain the diagnosis and appropriate treatment of childhood headaches
- Distinguish the different meningeal syndromes and define how they should be approached and treated





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General skills

- Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- Apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study
- Integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments
- Know how to communicate their conclusions the knowledge and ultimate reasons that support them, to specialized and non-specialized audiences in a clear and unambiguous way
- · Acquire the learning skills that will enable them to continue studying in a manner that will be largely self-directed or autonomous



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







Specific skills

- Properly perform neurologic screening at all stages of child development
- Implement imaging and complementary tests in the appropriate study of child development
- Identify the involvement of prenatal central nervous system infections
- Define the implications of fetal malformations on neurodevelopment
- Define the neurodevelopmental implications of trauma
- Identify and treat inborn errors of metabolism in the context of neurological pathology
- Apply the appropriate treatment in the case of central and peripheral motor disorders
- Define and treat pervasive developmental disorders/autism spectrum disorders
- Apply the appropriate treatment in Attention Deficit Hyperactivity Disorder
- Explain the current approach to paroxysmal disorders in the pediatric age range
- Define the disorders requiring neurosurgical treatment in pediatric neurology
- Identify the neurological alterations of the different malformations, chromosomal and other genetic alterations of the central nervous system
- Define the impact on the development of neurophthalmology and neurotology
- Apply the appropriate nutritional and pharmacological treatment in Neuropediatrics
- Address the different neurological emergencies that may occur in the pediatric age range





Management



Dr. Fernández Fernández, Manuel Antonio

- Director of the Andalusian Institute of Pediatric Neurology. Seville
- Medical Degree from the University of Cadiz
- MIR Pediatrics at the Virgen del Rocío University Hospital in Seville
- Diploma of Advanced Studies. University of Seville
- Accreditation in Neuropediatrics by the Spanish Society of Pediatric Neurology (SENEP)
- Master's Degree in Healthcare Services Management and Planning. CTO Business School
- Master's Degree in Entrepreneurship GADE Business School
- Master's Degree in Leadership and Management Skills. GADE Business School
- Master's Degree in Clinical Trials. University of Seville
- Master's Degree in Attention Deficit and/or Hyperactivity Disorder (ADHD). University Pablo de Olavide
- Master's Degree in Autism Spectrum Disorders. University of La Rioja
- Expert in Attention Deficit and/or Hyperactivity Disorder throughout life. Alcalá de Henares University
- Pediatrics Practicum Script Expert Auditor
- Advisor to the Institute for Professional Excellence
- European Cum Laude Forum Adviso
- IACAPAP Child and Adolescent Mental Health Manual Reviewer
- Coordinator of the ADHD group of the SEMA (Spanish Society of Adolescent Medicine)
- Member of the Scientific Committee of the INGADA Foundation
- External Expert Evaluator of the Andalusian Health Quality Agency (ACSA
- Expert Evaluator of research projects of the Andalusian Ministry of Health
- Expert in evaluation and research programs of the European Commission (CIP, COST, Human Brain Project, Horizon 2020)



Dr. Fernández Jaén, Alberto

- Head of the Child Neurology Service, Hospital Quirónsalud Madrid
- Degree in Medicine and Surgery from the UAM
- Specialist in Pediatrics and Child Neurology. Hospital La Paz
- CADE Medical Director
- Head of the Child Neurology Department, Quirón University Hospital, (Madrid)

Professors

Dr. Carvalho Gómez, Carla

- Neuropsychology, Andalusian Institute of Pediatric Neurology Seville
- Neuropsychology in the La Fe University Hospital, Valencia

Dr. Ros Cervera, Gonzalo

- Neuropediatrician at Gandía Hospital
- Neuropediatrician at Valencian Institute of Neurosciences
- Degree in Medicine and Surgery
- Neuropediatrician accredited by the Spanish Association of Pediatrics

Dr. Hidalgo Vicario, Inés

- Primary Care Pediatrics Specialist
- Coordinator of the training and accreditation group of the SEMA (Spanish Society of Adolescent Medicine). Madrid, Spain

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 Head of the Neurodevelopment and Pediatric Neurology Unit, Ramón y Cajal Hospital Madrid, Spain

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- Neuropediatrician Physician, Quironsalud University Hospital Madrid (Spain)

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- Curricular Internship at INANP Andalusian Institute of Pediatric Neurology.
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- Child Neurologist
- Neurology Department, Quirónsalud University Hospital Madrid (Spain)

Dr. Amado Puentes, Alfonso

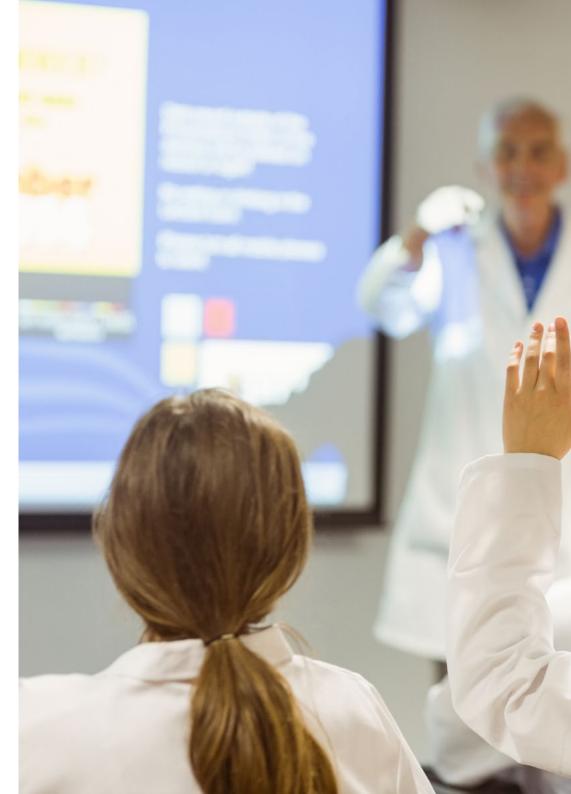
• Pediatric Neurologist, Complejo Hospitalario Universitario de Vigo (Spain)

Dr. Barbero Aguirre, Pedro

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Dr. Eiris Puñal, Jesús

 Head of the Pediatric Neurology Unit, Santiago de Compostela University Hospital Complex Galicia (Spain)









Take the step to get up to date on the latest developments in Pediatri the latest developments in Pediatric Neurology and Neurodevelopment"





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Module 1. Update on Neurology Consultations

- 1.1. Medical History in Pediatric Neurology
 - 1.1.1. Clinician Personal Skills
 - 1.1.2. Advantages and Disadvantages of Good Communication and Information
 - 1.1.3. Orientation of the Medical History According to Disorders
 - 1.1.3.1. Headaches
 - 1.1.3.2. Epilepsy
 - 1.1.4. Orientation of the Medical History According to Age
 - 1.1.4.1. Prenatal Medical History
 - 1.1.4.2. Neonatal Medical History
 - 1.1.4.3. Medical History in Young Children
 - 1.1.4.4. Medical History in Older Children
 - 1.1.5. Medical History of Psychomotor Development
 - 1.1.6. Medical History of Language Development
 - 1.1.7. Medical History of the Parent-Child Bond
 - 1.1.8. Personal and Family History
- 1.2. Neurological Examination of Newborns and Infants
 - 1.2.1. Basic Neurological Examination
 - 1.2.2. General Data
 - 1.2.3. External Aspect
 - 1.2.4. Functional Behaviors
 - 1.2.5. Sensory Functions
 - 1.2.6. Motility
 - 1.2.7. Primary Reflexes and Postural Attitudes
 - 1.2.8. Tone, Hand Pressure and Manipulation
 - 1.2.9. Cranial Nerves
 - 1.2.10. Sensitivity
 - 1.2.11. Neurological Assessment Scales



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- 1.3 Neurological Examination of Older Children
- 1.4 Neuropsychological Examination of Preschool Children
 - 1.4.1. The 3 First Years of Life
 - 1.4.2. Development
 - 1.4.3. First Trimester
 - 1.4.4. 3-6 Month Period
 - 1.4.5. 6-9 Month Period
 - 1.4.6. 9-12 Month Period
 - 1.4.7. 12-18 Month Period
 - 1.4.8. 18-24 Month Period
 - 1.4.9. 24-36 Month Period
- 1.5. Neuropsychological Examination of School Children
 - 1.5.1. Evolution from Age 3 to 6
 - 1.5.2. Development
 - 1.5.3. Cognitive Assessment
 - 1.5.4. Language Evaluation
 - 1.5.5. Attention Evaluation
 - 1.5.6. Memory Evaluation
 - 1.5.7. Evaluation of Psychomotor Skills and Rhythm
- 1.6. Psychomotor Development
 - 1.6.1. The Concept of Psychomotor Development
 - 1.6.2. Psychomotor Development Assessment
 - 1.6.3. Warning Signs in Psychomotor Development Evaluation
 - 1.6.4. Psychomotor Development Evaluation Scales

1.7. Complementary Evaluations

- 1.7.1. Prenatal Diagnosis
- 1.7.2. Genetic Studies
- 1.7.3. Biochemical Studies
 - 1.7.3.1. Blood
 - 1.7.3.2. Urine
- 1.7.4. Cerebrospinal Fluid
- 1.7.5. Diagnostic Imaging
 - 1.7.5.1. Ultrasound
 - 1.7.5.2. CAT
 - 1.7.5.3. Magnetic Resonance
 - 1.7.5.4. Positron Emission Tomography (PET)
 - 1.7.5.5. Single Photon Emission Computed Tomography (SPECT)
 - 1.7.5.6. Magnetoencephalography
- 1.7.6. Neurophysiological Studies
 - 1.7.6.1. Electroencephalogram
 - 1.7.6.2. Visual Evoked Potential of the Torso and Somatosensation
 - 1.7.6.3. Electroneurogram (ENG)
 - 1.7.6.4. Electromyogram (EMG)
 - 1.7.6.5. Nerve Conduction Velocity (NCV)
 - 1.7.6.6. Single Fiber Study
- 1.7.7. Neuropathological Studies
- 1.7.8. Neuropsychological Studies

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Module 2. Advances in Prenatal and Neonatal Neurology

- 2.1. Prenatal Central Nervous System Infections
 - 2.1.1. Introduction
 - 2.1.2. General Pathogenic Aspects
 - 2.1.3. Congenital Viral Infections
 - 2.1.3.1. Cytomegalovirus
 - 2.1.3.2. Rubella
 - 2.1.3.3. Herpes
 - 2.1.4. Bacterial Congenital Infections
 - 2.1.4.1. Syphilis
 - 2.1.4.2. Listeria
 - 2.1.4.3. Lyme Disease
 - 2.1.5. Congenital Infections due to Parasites
 - 2.1.5.1. Toxoplasma
 - 2.1.6. Other Infections
- 2.2. Vascular Malformations
 - 2.2.1. Introduction
 - 2.2.2. The Embryonic Process and Its Disorders
 - 2.2.3. Main Central Nervous System Abnormalities
 - 2.2.3.1. Anomalies of Dorsal Induction
 - 2.2.3.2. Anomalies of Ventral Induction
 - 2.2.3.3. Midline Disorders
 - 2.2.3.4. Cell Proliferation-Differentiation Abnormalities
 - 2.2.3.5. Neuronal Migration Abnormalities
 - 2.2.3.6. Posterior Fossa Structure Abnormalities
 - 2.2.4. Embryopathies and Fetopathies
- 2.3. Perinatal Trauma
 - 2.3.1. Perinatal Neurological Trauma
 - 2.3.2. Hypoxic-Ischemic Encephalopathy
 - 2.3.2.1. Concept, Classification and Pathophysiology
 - 2.3.2.2. Detection, Management and Prognosis
 - 2.3.2.3. Newborn Intracranial Hemorrhage

- 2.3.2.4. Germinal Matrix Hemorrhage-Intraventricular Hemorrhage
- 2.3.2.5. Periventricular Hemorrhagic Infarction
- 2.3.2.6. Cerebellar Hemorrhage
- 2.3.2.7. Supratentorial Hemorrhage
- 2.4. Neonatal Metabolic Disorders with Neurological Effects
 - 2.4.1. Introduction
 - 2.4.2. Neonatal Screening for Inborn Errors of Metabolism
 - 2.4.3. Diagnosis of Metabolic Disease in the Neonatal Period
 - 2.4.4. Neonatal Metabolic Disease with Seizures
 - 2.4.5. Neonatal Metabolic Disease with Neurological Deterioration
 - 2.4.6. Neonatal Metabolic Disease with Hypotonia
 - 2.4.7. Neonatal Metabolic Disease with Dysmorphias
 - 2.4.8. Neonatal Metabolic Disease with Heart Disease
 - 2.4.9. Neonatal Metabolic Disease with Hepatic Symptoms
- 2.5. Neonatal Seizures
 - 2.5.1. Introduction to Neonatal Crises
 - 2.5.2. Etiology and Pathophysiology
 - 2.5.3. Definition and Characteristics of Neonatal Crises.
 - 2.5.4 Classification of Neonatal Crises
 - 2.5.5. Clinical Manifestations
 - 2.5.6. Diagnosis of Neonatal Crises
 - 2.5.7. Treatment of Neonatal Crises
 - 2.5.8. Prognosis of Neonatal Crises
- 2.6. Neonatal Intracranial Infections
- 2.7. Newborns at High Neurological Risk
 - 2.7.1. Concept
 - 2.7.2. Causes
 - 2.7.3. Detection
 - 2.7.4. Monitoring

Module 3. Advances in Central and Peripheral Motor Disorders

- 3.1. Cerebral Palsy
 - 3.1.1. Concept
 - 3.1.2. Etiology and Risk Factors
 - 3.1.2.1. Prenatal Factors
 - 3.1.2.1.1. Perinatal Factors
 - 3.1.2.1.2. Postnatal Factors
 - 3.1.2. Clinical Forms
 - 3.1.2.1. Spastic ICP
 - 3.1.2.2. Spastic Diplegia
 - 3.1.2.3. Spastic Hemiplegia
 - 3.1.2.4. Spastic Triplegia
 - 3.1.2.5. Dyskinetic or Athetoid ICP
 - 3.1.2.6. Ataxic ICP
 - 3.1.3. Comorbid Disorders
 - 3.1.4. Diagnosis
 - 3.1.5. Treatment
- 3.2. Motor Neuron Diseases in Childhood
 - 3.2.1. Generalized Forms of Motor Neuron Diseases
 - 3.2.1.1. Spinal Muscular Atrophy
 - 3.2.1.2. Other Variations of Spinal Muscular Atrophy
 - 3.2.2. Focal Forms of Motor Neuron Diseases in Childhood
- 3.3. Juvenile Myasthenia Gravis and Other Neuromuscular Junction Disorders
 - 3.3.1. Juvenile Myasthenia Gravis in Childhood
 - 3.3.2. Transient Neonatal Myasthenia Gravis
 - 3.3.3. Congenital Myasthenic Syndromes
 - 3.3.4. Childhood Botulism
- 3.4. Childhood Muscular Dystrophy
 - 3.4.1. Childhood Muscular Dystrophy: Dystrophinopathies
 - 3.4.2. Childhood Muscular Dystrophies Other than Dystrophinopathies
- 3.5. Childhood Myotonic Disorders
 - 3.5.1. Childhood Congenital Myopathies
 - 3.5.2. Childhood Inflammatory and Metabolic Myopathies

- 3.6. Childhood Neuropathies
 - 3.6.1. Motor Neuropathies
 - 3.6.2. Sensorimotor Neuropathies
 - 3.6.3. Sensory Neuropathies

Module 4. Update on Inborn Errors of Metabolism

- 4.1. Introduction to Inborn Errors of Metabolism (IEM)
 - 4.1.1. Introduction and Concept
 - 4.1.2. Etiology and Classification
 - 4.1.3. Clinical Manifestations
 - 4.1.4. General Diagnostic Process
 - 4.1.5. General Intervention Guidelines
- 4.2. Mitochondrial Diseases
 - 4.2.1. Oxidative Phosphorylation Defects
 - 4.2.2. Krebs Cycle Defect
 - 4.2.3. Etiology and Pathophysiology
 - 4.2.4. Classification
 - 4.2.5. Diagnosis
 - 4.2.6. Treatment
- 4.3. Fatty Acid ß-Oxidation Defects
 - 4.3.1. Introduction to Beta-Oxidation Disorders
 - 4.3.2. Pathophysiology of Beta-Oxidation Disorders
 - 4.3.3. Clinical Manifestations of Beta-Oxidation Disorders
 - 4.3.4. Diagnosis of Beta-Oxidation Disorders
 - 4.3.5. Treatment of Beta-Oxidation Disorders
- 4.4. Gluconeogenesis Defects
 - 4.4.1. Etiology and Pathophysiology
 - 4.4.2. Classification
 - 4.4.3. Diagnosis
 - 4.4.4. Treatment
- 4.5. Peroxisomal Diseases
 - 4.5.1. Zellweger Syndrome
 - 4.5.2. X-Linked Adrenoleukodystrophy
 - 4.5.3. Other Peroxisomal Diseases

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4.6.	Congenital Disorders of Glycosylation			
	4.6.1.	Etiology and Pathophysiology		
	4.6.2.	Classification		
	4.6.3.	Diagnosis		
	4.6.4.	Treatment		
4.7.	Neurotr	ansmitter IEM		
	4.7.1.	Introduction to Neurotransmitter Metabolic Diseases		
	4.7.2.	General Concepts of Neurotransmitter Metabolic Diseases		
	4.7.3.	GABA Metabolism Disorders		
	4.7.4.	Biogenic Amine Disorder		
	4.7.5.	Startle Disease or Hereditary Hyperekplexia		
4.8.	Creatine Brain Defects			
	4.8.1.	Etiology and Pathophysiology		
	4.8.2.	Classification		
	4.8.3.	Diagnosis		
	4.8.4.	Treatment		
4.9.	Aminoa	cidopathies		
	4.9.1.	Phenylketonuria		
	4.9.2.	Hyperphenylalaninemia		
	4.9.3.	Tetrahydrobiopterin Deficiency		
	4.9.4.	Non-Ketotic Hyperglycemia		
	4.9.5.	Maple Syrup Urine Disease		
	4.9.6.	Homocystinuria		
	4.9.7.	Tyrosinemia Type II		
4.10.	Purines	and Pyrimidines IEM		
	4.10.1.	Etiology and Pathophysiology		
	4.10.2.	Classification		
	4.10.3.	Diagnosis		
	4.10.4.	Treatment		

4.11.	Lysosomal Diseases			
	4.11.1.	Mucopolysaccharidosis		
	4.11.2.	Oligosaccharidosis		
	4.11.3.	Sphingolipidosis		
	4.11.4.	Other Lysosomal Diseases		
4.12.	Glycoge	nosis		
	4.12.1.	Etiology and Pathophysiology		
	4.12.2.	Classification		
	4.12.3.	Diagnosis		
	4.12.4.	Treatment		
4.13.	Organic	Acidemias		
	4.13.1.	Methylmalonic Acidemia		
	4.13.2.	Propionic Acidemia		
	4.13.3.	Isovaleric Acidemia		
	4.13.4.	Glutaric Aciduria Type I		
	4.13.5.	3-Methyl Crotonyl Glyciduria		
	4.13.6.	Holocarboxylase Synthetase Deficiency		
	4.13.7.	Biotinidase Deficiency		
	4.13.8.	3-Methylglutaconyl Aciduria Type I		
	4.13.9.	3-Methylglutaconyl Aciduria Type III		
	4.13.10	D-2 Hydroxyglutaric Aciduria		
	4.13.11.	L-2 Hydroxyglutaric Aciduria		
	4.13.12.	4-Hydroxybutyric Aciduria		
	4.13.13.	Deficiency of Acetoacetyl CoA-Thiolase		
4.14.	Carbohy	vdrates IEM		
	4.14.1.	Etiology and Pathophysiology		
	4.14.2.	Classification		
	4.14.3.	Diagnosis		

4.14.4. Treatment



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Module 5. Advances in Developmental, Learning and Neuropsychiatric Disorders

- 5.1. Delayed Psychomotor Development
 - 5.1.1. Concept
 - 5.1.2. Etiology
 - 5.1.3. Epidemiology
 - 5.1.4. Symptoms
 - 5.1.5. Diagnosis
 - 5.1.6. Treatment
- 5.2. Generalized Developmental Disorders
 - 5.2.1. Concept
 - 5.2.2. Etiology
 - 5.2.3. Epidemiology
 - 5.2.4. Symptoms
 - 5.2.5. Diagnosis
 - 5.2.6. Treatment
- 5.3. Attention Deficit and Hyperactivity Disorder
 - 5.3.1. Concept
 - 5.3.2. Etiology
 - 5.3.3. Epidemiology
 - 5.3.4. Symptoms
 - 5.3.5. Diagnosis
 - 5.3.6. Treatment
- 5.4. Eating Disorders
 - 5.4.1. Introduction: Anorexia, Bulimia and Binge Eating Disorder
 - 5.4.2. Concept
 - 5.4.3. Etiology
 - 5.4.4. Epidemiology
 - 5.4.5. Symptoms
 - 5.4.6. Diagnosis
 - 5.4.7. Treatment

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5.5.	Sphinc	ter Control Disorder			
	5.5.1.	Introduction: Primary Nocturnal Enuresis and Encopresis			
	5.5.2.	Concept			
	5.5.3.	Etiology			
	5.5.4.	Epidemiology			
	5.5.5.	Symptoms			
		Diagnosis			
	5.5.7.	Treatment			
5.6.	Psychosomatic/Functional Disorders				
	5.6.1.	Introduction: Conversive Disorders and Simulated Disorders			
	5.6.2.	Concept			
	5.6.3.	Etiology			
	5.6.4.	Epidemiology			
	5.6.5.	Symptoms			
	5.6.6.	Diagnosis			
	5.6.7.	Treatment			
5.7.	Mood [Mood Disorders			
	5.7.1.	Introduction: Anxiety and Depression			
	5.7.2.	Concept			
	5.7.3.	Etiology			
	5.7.4.	Epidemiology			
	5.7.5.	Symptoms			
	5.7.6.	Diagnosis			
	5.7.7.	Treatment			
5.8.	Schizo	phrenia			
	5.8.1.	Concept			
	5.8.2.	Etiology			
	5.8.3.	Epidemiology			
	5.8.4.	Symptoms			
	5.8.5.	Diagnosis			
	5.8.6.	Treatment			

- 5.9. Learning Disorders
 5.9.1. Introduction
 - 5.9.2. Language Disorders
 - 5.9.3. Reading Disorder
 - 5.9.4. Writing Disorder
 - 5.9.5. Calculation Disorder
 - 5.9.6. Non-Verbal Learning Disorder
- 5.10. Sleep Disorders
 - 5.10.1. Introduction
 - 5.10.2. Conciliation Disorder
 - 5.10.3. Fragmented Sleep Disorder
 - 5.10.4. Delayed Sleep Cycle
 - 5.10.5. Assessment
 - 5.10.6. Treatment

Module 6. Update on Neurosurgical Pathology in Pediatric Neurology

- 6.1. Supratentorial CNS Tumors
- 6.2. CNS Infratentorial and Spinal Tumors
- 6.3. Non-Embryonal Brain Tumors in Pediatric and Adolescent Patients
- 6.4. Neuropsychological Assessment and Rehabilitation in Children with CNS Tumors
- 6.5. Non-Oncological Space Occupying Processes
 - 6.5.1. Concept
 - 6.5.2. Classification
 - 6.5.3. Clinical Manifestations
 - 6.5.4. Diagnosis
 - 6.5.5. Treatment
- 6.6. Infantile Hydrocephalus
 - 6.6.1. Concept and Epidemiology
 - 6.6.2. Etiology and Pathophysiology
 - 6.6.3. Classification
 - 6.6.4. Clinical Manifestations
 - 6.6.5. Diagnosis
 - 6.6.6. Treatment

- 6.7. Childhood Cerebrovascular Disease
 - 6.7.1. Concept and Epidemiology
 - 6.7.2. Etiology and Pathophysiology
 - 6.7.3. Classification
 - 6.7.4. Clinical Manifestations
 - 6.7.5. Diagnosis
 - 6.7.6. Treatment

Module 7. Advances in Infectious, Parainfectious, Inflammatory and/or Autoimmune Diseases of the Nervous System

- 7.1. Meningeal Syndrome
 - 7.1.1. Bacterial Meningitis
 - 7.1.1.1. Epidemiology
 - 7.1.1.2. Clinical Symptoms
 - 7.1.1.3. Diagnosis
 - 7.1.1.4. Treatment
 - 7.1.2. Acute Viral Meningitis
 - 7.1.2.1. Epidemiology
 - 7.1.2.2. Clinical Symptoms
 - 7.1.2.3. Diagnosis
 - 7.1.2.4. Treatment
- 7.2. Encephalitic Syndrome
 - 7.2.1. Acute and Chronic Encephalitis
 - 7.2.1.1. Epidemiology
 - 7.2.1.2. Clinical Symptoms
 - 7.2.1.3. Diagnosis
 - 7.2.1.4. Treatment
 - 7.2.2. Viral Encephalitis
 - 7.2.2.1. Epidemiology
 - 7.2.2.2. Clinical Symptoms
 - 7.2.2.3. Diagnosis
 - 7.2.2.4. Treatment

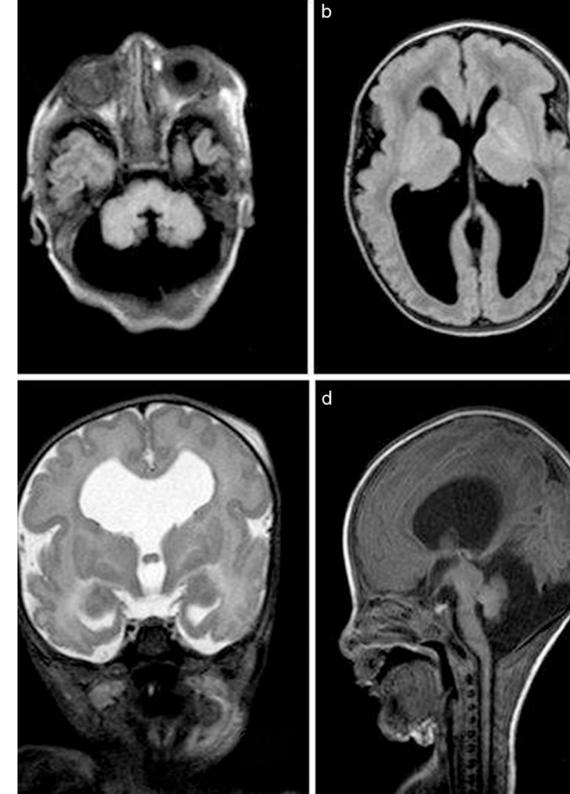
- 7.3. Other CNS Infections
 - 7.3.1. Fungal Infections
 - 7.3.1.1. Epidemiology
 - 7.3.1.2. Clinical Symptoms
 - 7.3.1.3. Diagnosis
 - 7.3.1.4. Treatment
 - 7.3.2. Parasite Infections
 - 7.3.2.1. Epidemiology
 - 7.3.2.2. Clinical Symptoms
 - 7.3.2.3. Diagnosis
 - 7.3.2.4. Treatment
- 7.4. Demyelinating and Parainfectious Diseases
 - 7.4.1. Acute Disseminated Encephalomyelitis (ADEM)
 - 7.4.2. Acute Post-Infectious Ataxia
- 7.5. Toxic and Metabolic Encephalopathies
 - 7.5.1. Classification and Types
 - 7.5.2. Epidemiology
 - 7.5.3. Clinical Symptoms
 - 7.5.4. Diagnosis
 - 7.5.5. Treatment

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Module 8. Malformations, Chromosomal Disorders and Other Genetic Disorders of the CNS

Diso	rders o	f the CNS		
8.1.	Malforr	mations of the CNS		
	8.1.1.	Introduction		
	8.1.2.	Classification		
	8.1.3.	Anomalies of Dorsal Induction		
	8.1.4.	Anomalies of Ventral Induction		
	8.1.5.	Midline Disorders		
	8.1.6.	Cell Proliferation-Differentiation Abnormalities		
	8.1.7.	Neuronal Migration Abnormalities		
	8.1.8.	Posterior Fossa Structure Abnormalities		
8.2.	Most R	elevant Chromosomal Alterations in Pediatric Neurology		
	8.2.1.	Introduction		
	8.2.2.	Classification		
	8.2.3.	Autosomal Aneuploidies		
	8.2.4.	Sexual Aneuploidies		
8.3.	Neurocutaneous Syndromes			
	8.3.1.	Neurofibromatosis Type I		
	8.3.2.	Neurofibromatosis Type II		
	8.3.3.	Tuberous Sclerosis		
	8.3.4.	Incontinentia Pigmenti		
	8.3.5.	Sturge-Weber Syndrome		
	8.3.6.	Other Neurocutaneous Syndromes		
8.4.	Other R	Relevant Genetic Syndromes in Pediatric Neurology		
	8.4.1.	Prader Willi Syndrome		
	8.4.2.	Angelman Syndrome		
	8.4.3.	Fragile X Syndrome		
	8.4.4.	Williams Syndrome		
8.5.	Clinical	Application of Genetic Studies in Neuropediatrics		
	8.5.1.	Introduction		
	8.5.2.	Karyotype		
	8.5.3.	Study Fragile X		
	8.5.4.	Subtelomeric FISH Probes		
	8.5.5.	CGH Array		

8.5.6. Exome8.5.7. Sequencing



Module 9. Advances in Related Areas. Neuro-Ophthalmology, Neurotology, Nutrition

- 9.1. Neuro-Ophthalmology
 - 9.1.1. Papillary Disorders
 - 9.1.1.1. Congenital Abnormalities
 - 9.1.1.2. Papillary Atrophy
 - 9.1.1.3. Papillary Edema
 - 9.1.2. Pupils
 - 9.1.2.1. Anisocoria
 - 9.1.2.2. Sympathetic Paralysis
 - 9.1.3. Oculomotor Dysfunction
 - 9.1.3.1. Ophthalmoplegia
 - 9.1.3.2. Gaze Disorders
 - 9.1.3.3. Apraxia
 - 9.1.3.4. Nystagmus
- 9.2. Neurotology
 - 9.2.1. Hearing
 - 9.2.2. Exploration
 - 9.2.3. Hearing Loss
 - 9.2.4. Vestibular Function
 - 9.2.5. Vestibular Function Alterations
- 9.3. Nutrition in Pediatric Neurology
 - 9.3.1. Normal Nutritional Recommendations
 - 9.3.2. Nutritional Recommendations in Neurological Disorders
 - 9.3.3. Nutritional Supplements
 - 9.3.4. Specific Therapeutic Diets
- 9.4. Pharmacology
 - 9.4.1. Nervous System Pharmacology
 - 9.4.2. Pharmacology in Pediatrics
 - 9.4.3. Drugs Frequently Used in Pediatric Neurology
 - 9.4.4. Polytherapy and Drug Resistance

- 9.5. Social Neuropediatrics
 - 9.5.1. Abuse and Neglect
 - 9.5.2. Affective and Sensory Deprivation
 - 9.5.3. Adoption
 - 9.5.4. Grief

Module 10. Advances in Neurological Emergencies

- 10.1. Status Epilepticus
 - 10.1.1. Concept and Epidemiology
 - 10.1.2. Etiology and Classification
 - 10.1.3. Clinical Presentation
 - 10.1.4. Diagnosis
 - 10.1.5. Treatment
- 10.2. Coma and Acute Confusional Syndrome
 - 10.2.1. Concept and Epidemiology
 - 10.2.2. Etiology and Classification
 - 10.2.3. Clinical Presentation
 - 10.2.4. Diagnosis
 - 10.2.5. Treatment
- 10.3. Severe Cranioencephalic Trauma
 - 10.3.1. Concept and Epidemiology
 - 10.3.2. Etiology and Classification
 - 10.3.3. Clinical Presentation
 - 10.3.4. Diagnosis
 - 10.3.5. Treatment
- 10.4. Acute Hemiplegia. Stroke
 - 10.4.1. Concept and Epidemiology
 - 10.4.2. Etiology and Classification
 - 10.4.3. Clinical Presentation
 - 10.4.4. Diagnosis
 - 10.4.5. Treatment

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- 10.5. Acute Intracranial Hypertension Syndrome. Valvular Dysfunction
 - 10.5.1. Concept and Epidemiology
 - 10.5.2. Etiology
 - 10.5.3. Clinical Presentation
 - 10.5.4. Diagnosis
 - 10.5.5. Treatment
- 10.6. Acute Spinal Cord Injury. Acute Flaccid Paralysis
 - 10.6.1. Concept and Epidemiology
 - 10.6.2. Etiology and Classification
 - 10.6.3. Clinical Presentation
 - 10.6.4. Diagnosis
 - 10.6.5. Treatment
- 10.7. Neurological Emergencies in Pediatric Oncology
 - 10.7.1. Fever
 - 10.7.2. Tumor Lysis Syndrome
 - 10.7.3. Hypercalcemia
 - 10.7.4. Hyperleukocytosis
 - 10.7.5. Superior Vena Cava Syndrome
 - 10.7.6. Hemorrhagic Cystitis

Module 11. Advances in Paroxysmal Disorders

- 11.1. Febrile Crises
 - 11.1.1. Introduction
 - 11.1.2. Etiology and Genetics
 - 11.1.3. Epidemiology and Classification
 - 11.1.4. Symptoms
 - 11.1.5. Diagnosis
 - 11.1.6. Treatment
- 11.2. Infant Epilepsies
 - 11.2.1. West Syndrome
 - 11.2.2. Malignant Partial Migratory Crises in Breastfeeding Infants
 - 11.2.3. Benign Myoclonic Epilepsy in Children
 - 11.2.4. Myoclonic Astatic Epilepsy
 - 11.2.5. Lennox-Gastaut Syndrome
 - 11.2.6. Benign Idiopathic Partial Epilepsies in Infants and Young Children





Structure and Content | 35 tech

11.3.	School-Age	Epilepsie	2

- 11.3.1. Epilepsy with Central Temporal Spikes and Related Syndromes
- 11.3.2. Idiopathic Occipital Epilepsies
- 11.3.3. Childhood Non-Idiopathic Partial Epilepsies
- 11.3.4. Childhood Absence Epilepsy
- 11.4. Epilepsy in Older Children and Adolescents
 - 11.4.1. Juvenile Absence Epilepsy
 - 11.4.2. Juvenile Myoclonic Epilepsy
 - 11.4.3. Grand Mal on Awakening
- 11.5. Treatment of Epilepsy in Childhood
 - 11.5.1. Introduction
 - 11.5.2. Antiepileptic Drugs
 - 11.5.3. The Choice of Treatment
 - 11.5.4. The Process of Starting Treatment
 - 11.5.5. Monitoring and Control
 - 11.5.6. Suspending Treatment
 - 11.5.7. Drug Resistance
 - 11.5.8. Alternative Treatments
- 11.6. Headache
 - 11.6.1. Etiology
 - 11.6.2. Epidemiology
 - 11.6.2. Classification
 - 11.6.3. Diagnosis
 - 11.6.4. Complementary Tests
 - 11.6.5. Treatment
- 11.7. Movement Disorders
 - 11.7.1. Introduction
 - 11.7.2. Classification
 - 11.7.3. Disorders with Increased Movement
 - 11.7.4. Dyskinetics: Tics, Chorea and Ballismus
 - 11.7.5. Disorders with Decreased Movement
 - 11.7.6. Hypokinetic-Rigid Syndromes: Parkinsonism



tech 38 | Methodology

At TECH we use the Case Method

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

With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.



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



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

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

- 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.



Methodology | 41 tech

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.

tech 42 | Methodology

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

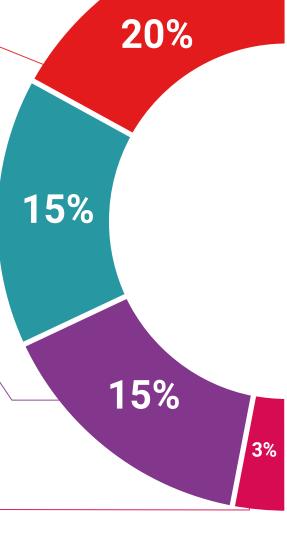
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many 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



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.

and direct way to achieve the highest degree of understanding.





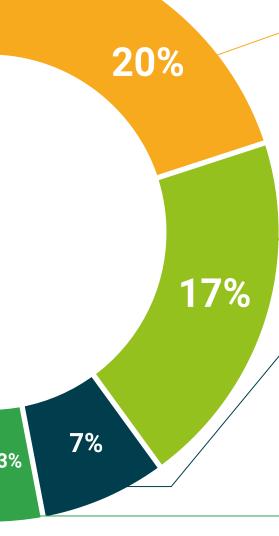
There is scientific evidence on the usefulness of learning by observing experts.

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.







tech 46 | Certificate

This **Professional Master's Degree in Pediatric Neurology and Neurodevelopment** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree** issued by **TECH Technological University** via tracked delivery*.

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

Awards the following
DIPLOMA

to
Mr./Ms. ______ with identification number _____
For having successfully passed and accredited the following program

PROFESSIONAL MASTER'S DEGREE

in

Pediatric Neurology and Neurodevelopment

This is a qualification awarded by this University, equivalent to 1,500 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

June 17, 2020

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Title: Professional Master's Degree in Pediatric Neurology and Neurodevelopment Official N° of hours: 1,500 h.

Endorsed by: Spanish Society of Pediatric Pulmonology





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

technological university **Professional Master's** Degree Pediatric Neurology and Neurodevelopment » Modality: online » Duration: 12 months » Certificate: TECH Technological University » Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

