

# Postgraduate Certificate

## Pediatric Neuro-Ophthalmology





## Postgraduate Certificate

### Pediatric Neuro- Ophthalmology

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

Website: [www.techtute.com/us/medicine/postgraduate-certificate/pediatric-neuro-ophthalmology](http://www.techtute.com/us/medicine/postgraduate-certificate/pediatric-neuro-ophthalmology)

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# 01

# Introduction

Neuro-ophthalmologic disorders can appear in newborns and sometimes develop in early childhood. These diseases hinder the visual function and normal development of the infant. Therefore, these lesions can create different symptoms such as double vision or simple deterioration of eye movement. In accordance with the importance and boom of this discipline in the last decades, this program has been designed with the purpose of offering professionals in the area of Pediatric Ophthalmology a complete up-to-date on papillary edema and its relationship with intracranial hypertension in children. All this with a 100% online pedagogical format through the largest digital academic institution in the world.



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*This Postgraduate Certificate is focused on experts in the area of Pediatric Neuroophthalmology like you, where you will enhance your knowledge in structural abnormalities in the optic nerve”*



There are multiple pathologies and neurological diseases that are firmly integrated with the ocular system. From this connection, neuro-ophthalmology is born, in which specialists through research and scientific studies have found the best and innovative techniques for diagnosis and treatment of vision disorders, these related to alterations of the nervous system.

In this sense, the multiple integral investigations in this area of knowledge have continued to advance, managing to minimize and avoid the development of these pathologies in children of early ages. Given the importance of this discipline, TECH has decided to design this Postgraduate Certificate, which will provide the graduate with the latest updates on hereditary optic neuropathies in childhood and their characteristics.

The professional will strengthen their skills related to the diagnosis and management of pediatric glaucoma, pediatric uveitis, aniridia and other conditions related to the anterior segment. This qualification is supported by a teaching team specialized in Pediatric Ophthalmology, together with the best quality audiovisual material that offers a high percentage of dynamism and comfort with online modality.

In this way, TECH focuses on an elite education and that is why this program offers the most complete update and the highest academic standards, being a qualification of great flexibility as students only need a device with Internet connection to easily access the virtual platform from the comfort of the place where they are.

This **Postgraduate Certificate in Pediatric Neuro-Ophthalmology** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ Practical case studies presented by experts in Pediatric Ophthalmology
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions 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

“*Pediatric Neuro-ophthalmology is so important in medicine that you will delve into concepts such as Leber's hereditary optic neuropathy*”

“

*If you want to be at the forefront of Pediatric Neuro-ophthalmology, with TECH you will be able to do so by getting the most complete updates in the field”*

The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading 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 immersive education programmed to learn in real situations.

This program's design focuses on Problem-Based Learning, through which the professional must try to solve the different professional practice situations that arise during the academic program. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

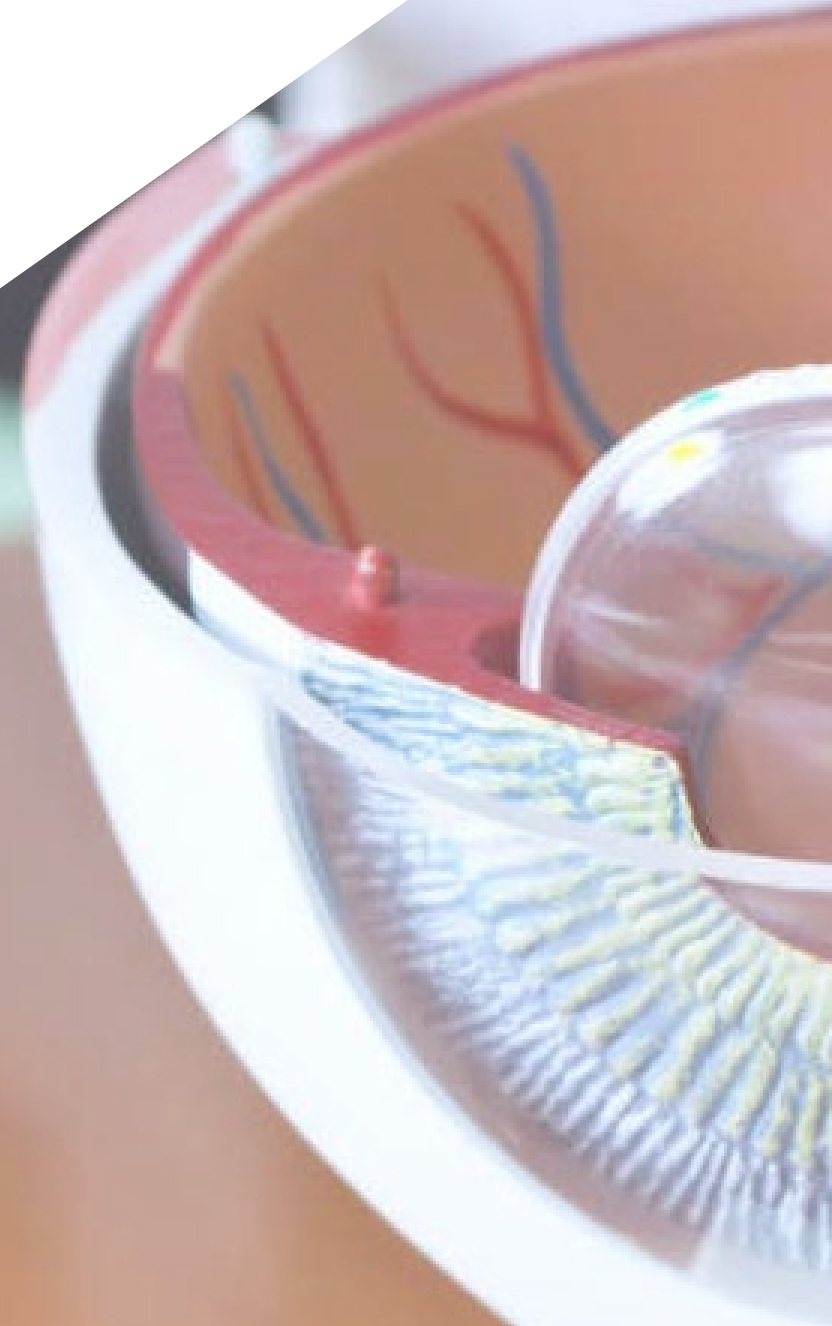
*You will enhance your skills in identifying congenital anomalies of the optic nerve in children and their association with visual problems.*

*TECH provides comfort with its flexible schedule and access to its virtual platform from an electronic device with Internet connection.*



# 02 Objectives

This Postgraduate Certificate in Pediatric Neuro-ophthalmology has been developed mainly to offer the expert the most innovative updates related to the types of nystagmus in children and its classification in the field of Ophthalmology. In this way, TECH provides different technological tools, ensuring the successful process and completion of the program. Upon completion of this qualification, students will have effectively updated their knowledge through case studies that will allow them to integrate the most appropriate techniques for each condition.







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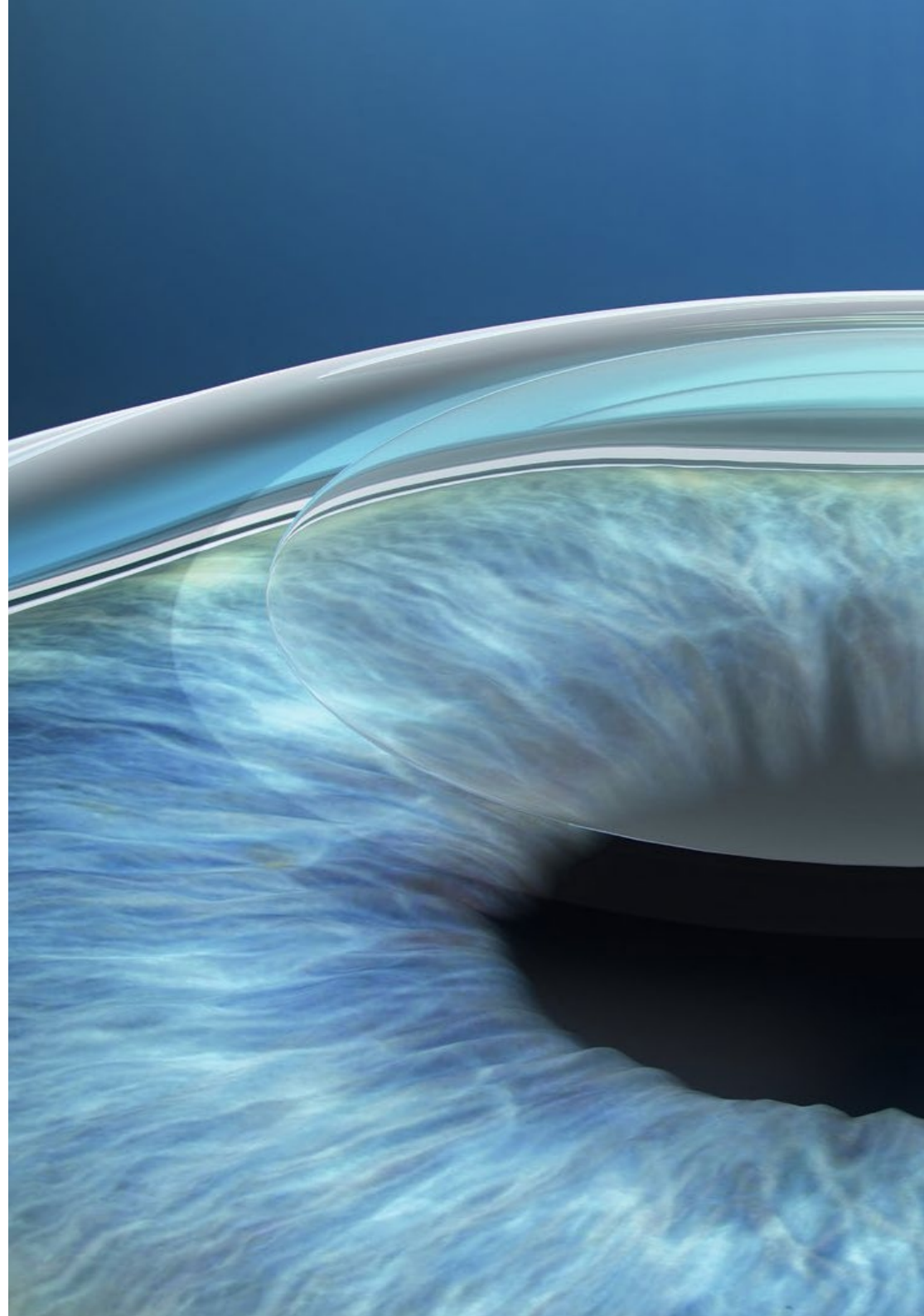
*With the technological tools that TECH provides you with, you will successfully complete your updating process on intracranial hypertension in childhood”*



## General Objectives

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- ◆ Acquire a thorough and up-to-date knowledge of the diagnosis and treatment of ophthalmologic conditions in children, including neonates and infants
- ◆ Develop a solid understanding of the basics of childhood vision development, covering ocular embryology, related genetics, and the anatomy and physiology of the growing visual system
- ◆ Understand and address ocular anterior segment pathologies, including palpebral, orbital, conjunctival pathology, developmental alterations of the anterior segment, and corneal and ectatic diseases in the pediatric age group
- ◆ Become familiar with the diagnosis and management of pediatric glaucoma, pediatric uveitis, aniridia and other conditions related to the anterior segment
- ◆ Acquire specific knowledge of retinopathy of prematurity, retinoblastoma, hereditary retinal disorders, retinal vascular anomalies, pediatric retinal detachment, and other pediatric retinal conditions
- ◆ Delve into the field of pediatric neuro-ophthalmology, covering topics such as nystagmus, supranuclear motility disorders, congenital optic nerve anomalies and hereditary optic neuropathies





## Specific Objectives

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- ◆ Identify types of nystagmus in children and their classification
- ◆ Deepen the knowledge of the mechanisms and causes of infantile nystagmus
- ◆ Study supranuclear and internuclear ocular motility disorders in childhood
- ◆ Perform specialized testing and evaluation of pediatric patients with these disorders
- ◆ Identify congenital anomalies of the optic nerve in children and their association with visual problems
- ◆ Recognize hereditary optic neuropathies in childhood and their features
- ◆ Understand optic atrophy in children and its causes
- ◆ Identify cases of optic neuritis in children and its relation to systemic diseases
- ◆ Differentiate between pseudopapilledema and papillary edema in the pediatric population
- ◆ Identify papillary edema and its relation to intracranial hypertension in children
- ◆ Recognize pupillary abnormalities in children and their importance in neurological diagnosis

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*During the development of the academic program you will find contents related to internuclear ocular motility disorders”*

# 03

## Course Management

TECH has the purpose of offering graduates the best and most updated content. For that reason, TECH provides in each of its programs the most innovative didactic tools, achieving the successful development of the process in each of its programs. In this way, the graduate will have access to material specifically designed by a teaching staff specialized in Pediatric Neurophthalmology and Strabismus, Neuroimmunology, Pathologies and Ocular Treatment. Their robust experience and extensive knowledge will undoubtedly take the graduate to the top of their professional career.





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*If you want a high-level update, do it with the best and most specialized teaching staff in Pediatric Neuroophthalmology”*



## Management



### Dr. Sánchez Monroy, Jorge

- ♦ Corresponsable for Pediatric Ophthalmology at Quirónsalud Hospital in Zaragoza
- ♦ Specialist in the Ophthalmology Miguel Servet University Hospital in Zaragoza
- ♦ Master'in in Clinical Ophthalmology from UCJC
- ♦ Degree in Medicine from the University of Zaragoza
- ♦ Expert in Pediatric Neurophthalmology and Strabismus
- ♦ Postgraduate Diploma in Ophthalmology and Vision Sciences

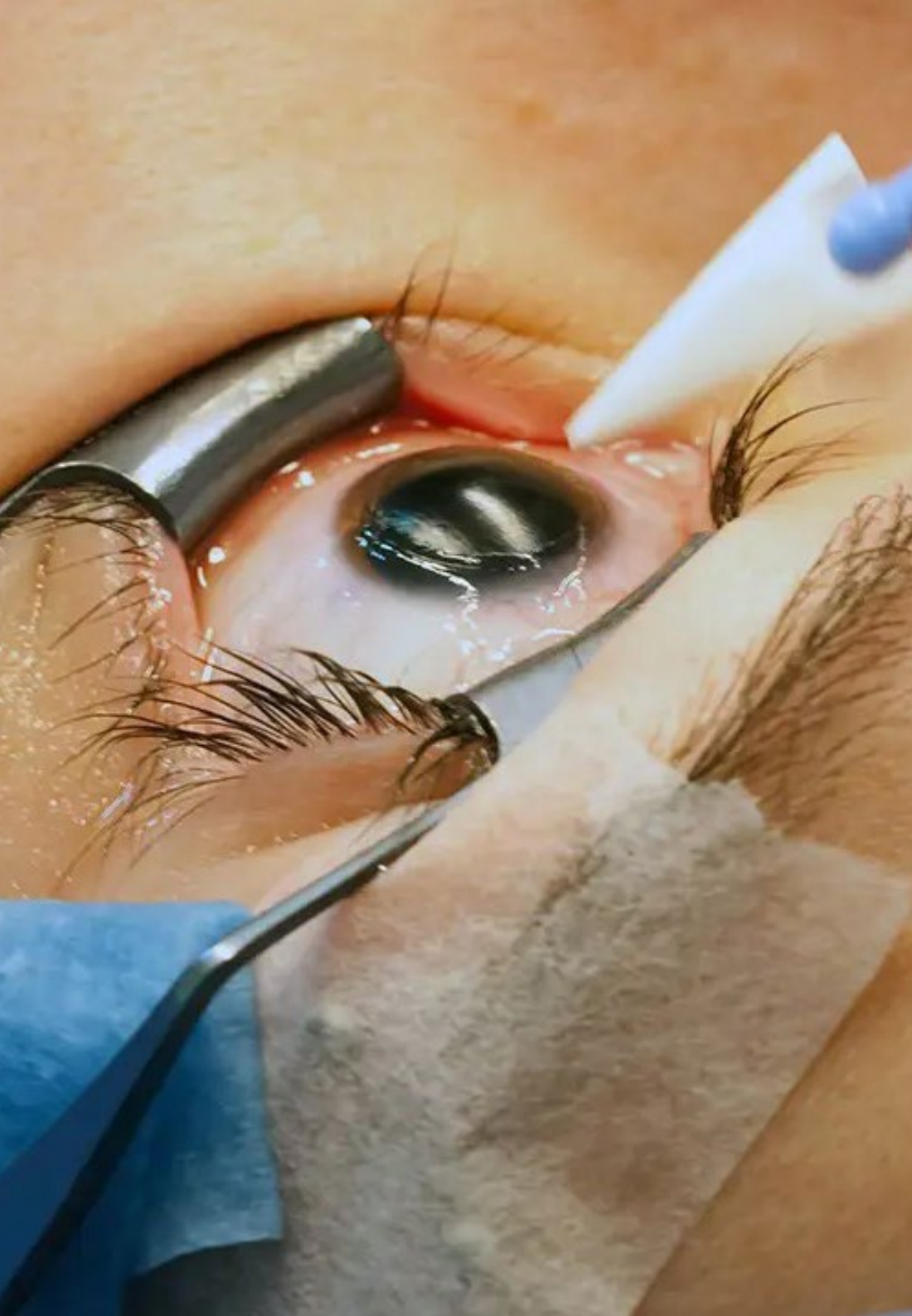
## Professors

### Dr. Romero Sanz, María

- ♦ Corresponsable for Children's Ophthalmology at Hospital Quirónsalud Zaragoza
- ♦ Specialist in the Ophthalmology Miguel Servet University Hospital in Zaragoza
- ♦ Master' in in Clinical Ophthalmology at CEU Cardenal Herrera University
- ♦ Master's Degree in Clinical Medicine at the Camilo José Cela University
- ♦ Grade in Medicine and Surgery from the Faculty of Medicine of the Zaragoza University
- ♦ Expert in Ophthalmic Surgery at the University CEU Cardenal Herrera
- ♦ Expert in Pathologies and Eye Treatment CEU Cardenal Herrera University
- ♦ Expert in Uveitis and the Retina CEU Cardenal Herrera University

### Dr. Prieto Calvo, Esther

- ♦ Specialist in the Pediatric Ophthalmology Miguel Servet University Hospital in Zaragoza
- ♦ Researcher in the Teaching Innovation Incentive Project of the UZ
- ♦ Researcher of the Thematic Network of Cooperative Research in Health
- ♦ Specialist in Ophthalmology
- ♦ Doctor from the University of Zaragoza
- ♦ Degree in Medicine
- ♦ Member of the Spanish Society of Pediatric Ophthalmology



**Dr. Noval Martin, Susana**

- ◆ Head of the Pediatric Ophthalmology Department at Hospital La Paz
- ◆ Doctorate Award of the Lopez Sanchez Foundation of the Royal Academy of Medicine
- ◆ PhD in Medicine from the University of Alcalá de Henares
- ◆ Master's Degree in Neuro-immunology from Autonomous University Madrid
- ◆ Degree in Medicine from the Autonomous University Madrid

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*Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice”*

# 04

## Structure and Content

This university qualification has been developed and guided by the most recent research in the ophthalmological field, guaranteeing a study plan that provides a prestigious content regarding therapies and treatments in hereditary optic neuropathies. This Postgraduate Certificate emphasizes on providing the expert with specialized and exclusive material on Pseudopapilledema and Optic Nerve Drusen. All this, by means of a series of multimedia tools that offer dynamism and a greater attractiveness to this university qualification.





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*This qualification is focused on providing you with a variety of valuable content such as the diagnosis and classification of congenital anomalies”*

## Module 1. Pediatric Neuro-Ophthalmology

- 1.1. Nystagmus
  - 1.1.1. Definition and classification of nystagmus
  - 1.1.2. Etiology and diagnosis of nystagmus
  - 1.1.3. Congenital nystagmus: characteristics and diagnosis
  - 1.1.4. Acquired nystagmus in childhood
- 1.2. Nystagmus II
  - 1.2.1. Therapeutic approach and management of nystagmus
  - 1.2.2. Nystagmus case studies and examples
  - 1.2.3. Advanced therapies and treatments in nystagmus
  - 1.2.4. Visual outcomes and prognosis in infantile nystagmus
- 1.3. Supranuclear and Internuclear Motility Disorders
  - 1.3.1. Supranuclear ocular motility disorders
  - 1.3.2. Internuclear ocular motility disorders
  - 1.3.3. Evaluation and diagnosis in supranuclear and internuclear disorders
  - 1.3.4. Management and treatment of ocular motility disorders
- 1.4. Congenital Optic Nerve Anomalies
  - 1.4.1. Structural abnormalities of the optic nerve
  - 1.4.2. Diagnosis and classification of congenital anomalies
  - 1.4.3. Visual implications and outcomes in patients with optic nerve anomalies
  - 1.4.4. Clinical cases and examples of congenital anomalies
- 1.5. Hereditary Optic Neuropathies
  - 1.5.1. Leber Hereditary Optic Neuropathy (LHON)
  - 1.5.2. Other hereditary optic neuropathies
  - 1.5.3. Genetic studies and diagnosis in optic neuropathies
  - 1.5.4. Therapies and treatments in hereditary optic neuropathies
- 1.6. Optic Atrophy in the Child
  - 1.6.1. Causes and risk factors in infantile optic atrophy
  - 1.6.2. Evaluation and diagnosis of optic atrophy in children
  - 1.6.3. Management and treatment of optic atrophy in infancy
  - 1.6.4. Visual outcomes and follow-up in pediatric optic atrophy





- 1.7. Pediatric Optic Neuritis
  - 1.7.1. Optic neuritis in children: etiology and characteristics
  - 1.7.2. Diagnosis and evaluation in pediatric optic neuritis
  - 1.7.3. Therapies and treatment in pediatric optic neuritis
  - 1.7.4. Prognosis and follow-up in optic neuritis
- 1.8. Pseudopapilledema. Optic nerve drusen
  - 1.8.1. Pseudopapilledema in infancy
  - 1.8.2. Optic nerve drusen: diagnosis and classification
  - 1.8.3. Management and follow-up in pseudopapilledema and drusen
  - 1.8.4. Clinical cases and examples of pseudopapilledema
- 1.9. Papillary edema, intracranial hypertension
  - 1.9.1. Papillary edema in children: causes and diagnosis
  - 1.9.2. Intracranial hypertension in infancy
  - 1.9.3. Treatment and management in papillary edema and intracranial hypertension
  - 1.9.4. Visual findings and follow-up in patients with these conditions
- 1.10. Pupillary Anomalies
  - 1.10.1. Pupillary abnormalities in infancy
  - 1.10.2. Diagnosis and evaluation of pupillary abnormalities
  - 1.10.3. Treatments and management of pupillary abnormalities
  - 1.10.4. Clinical cases and examples of pupillary anomalies

“With TECH you will acquire and enhance knowledge where you will make prognoses and follow-ups in optic neuritis”



05

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

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



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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

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

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



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



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

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

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.





## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

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

*Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*



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

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

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

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

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

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



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.





# 06 Certificate

The Postgraduate Certificate in Pediatric Neuro-Ophthalmology guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.







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

This **Postgraduate Certificate in Pediatric Neuro-Ophthalmology** contains the most complete and up-to-date scientific on the market.

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

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

Title: **Postgraduate Certificate in Pediatric Neuro-Ophthalmology**

Official N° of Hours: **150 h.**



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

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



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