

Hybrid Master's Degree Pediatric Ophthalmology



Hybrid Master's Degree Pediatric Ophthalmology

Modality: Hybrid (Online + Internship)

Duration: 12 months

Certificate: TECH Global University

Credits: 60 + 4 ECTS

Website: www.techtitude.com/us/medicine/hybrid-master-degree/hybrid-master-degree-pediatric-ophthalmology

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01

Introduction to the Program

Pediatric Ophthalmology plays a crucial role in the early detection and treatment of visual disorders that can impact child development. For example, amblyopia has an estimated global prevalence of 5%, and strabismus is present in approximately 4% of children. In this context, early intervention is key to preventing permanent visual deficits. For this reason, physicians have the responsibility to stay at the forefront of current diagnostic strategies and the most effective therapeutic modalities to manage these ophthalmological conditions comprehensively. With this in mind, TECH University presents an innovative university program focused on the latest advances in the field of Pediatric Ophthalmology.



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Thanks to this Hybrid Master's Degree, you will master the most innovative techniques to design individualized plans for the comprehensive management of complex pathologies such as Childhood Strabismus”

Uncorrected Refractive Errors represent one of the leading causes of Visual Disability in the pediatric population. According to a recent study by the World Health Organization, nearly 12 million children between the ages of 5 and 15 live with severe conditions due to untreated Ametropias. This issue is particularly concerning in regions with limited access to ophthalmological services. In this context, professionals need to be proficient in the most effective protocols for screening and early correction of these Refractive Errors, using technologies adapted to the pediatric population. Furthermore, it is essential that they develop skills to educate families and communities about the importance of early detection and proper follow-up.

With this fundamental premise in mind, TECH Global University launches an exclusive Postgraduate Certificate in Pediatric Ophthalmology. Designed by renowned experts, the academic path will delve into areas ranging from the diagnosis of Refractive Disorders or Amblyopia to the treatment of Strabismus and Congenital Cataracts. Additionally, the curriculum will address complex pathologies such as Pediatric Retina and the ophthalmological manifestations of pediatric Systemic Diseases. As a result, graduates will acquire advanced competencies to provide specialized and up-to-date care in pediatric visual health.

Moreover, the first stage of this curriculum is based on the disruptive methodology of Relearning. This system involves the strategic reiteration of essential concepts, thus promoting a progressive and natural process of knowledge updating. In this way, physicians will not need to invest long hours in study or resort to costly methods like traditional memorization. Furthermore, to access the Virtual Campus, all that is required is an electronic device with internet access. Additionally, graduates will undertake a practical placement at a leading institution in Pediatric Ophthalmology.

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

- ♦ Development of over 100 practical cases presented by Pediatric Ophthalmology professionals
- ♦ Its graphic, schematic and practical contents provide essential information on those disciplines that are indispensable for professional practice
- ♦ With a special emphasis on the use of cutting-edge technological tools
- ♦ All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an internet connection
- ♦ Furthermore, you will be able to carry out an internship in one of the best companies



You will effectively address cases of Retinopathy of Prematurity and other Pediatric Retina Pathologies"

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You will communicate effectively with the pediatric patient and their family environment, explaining procedures and treatments with clarity”

This Hybrid Master's Degree, with a professional focus and a blended modality, is designed for the ongoing education of Pediatric Ophthalmology professionals. The contents are based on the latest scientific evidence, and oriented in a didactic way to integrate theoretical knowledge into medical practice, and the theoretical-practical elements will facilitate the updating of knowledge and will allow decision making in patient management.

Thanks to its multimedia content, developed with the latest educational technology, it will provide medical professionals with situated and contextual learning. That is, a simulated environment that will offer immersive learning, programmed to train in real-life situations. The design of this program is based on Problem-Based Learning, by means of which the student must try to solve the different professional practice situations that arise during the program. For this purpose, students will be assisted by an innovative interactive video system created by renowned experts.

You will manage cutting-edge technological tools such as pediatric optical coherence tomography.

Specialized readings will allow you to further extend the rigorous information provided in this academic option.



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.



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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.

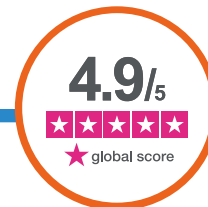
Leaders in employability

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

The teaching materials that make up this Hybrid Master's Degree have been developed by a group of experts with extensive experience in Pediatric Ophthalmology. As a result, the syllabus will rigorously address conditions such as Amblyopia, Strabismus, Congenital Cataracts, and Retinopathy of Prematurity. Furthermore, the syllabus will delve into the use of cutting-edge technological tools and updated clinical protocols that will enable graduates to optimize their medical practice. In this way, they will provide comprehensive, patient-centered ophthalmological care for pediatric patients.





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You will deepen your knowledge in the early identification of ocular manifestations of Systemic Diseases such as Neurofibromatosis, Diabetes, and Genetic Syndromes”

Module 1. Foundations of Vision Development

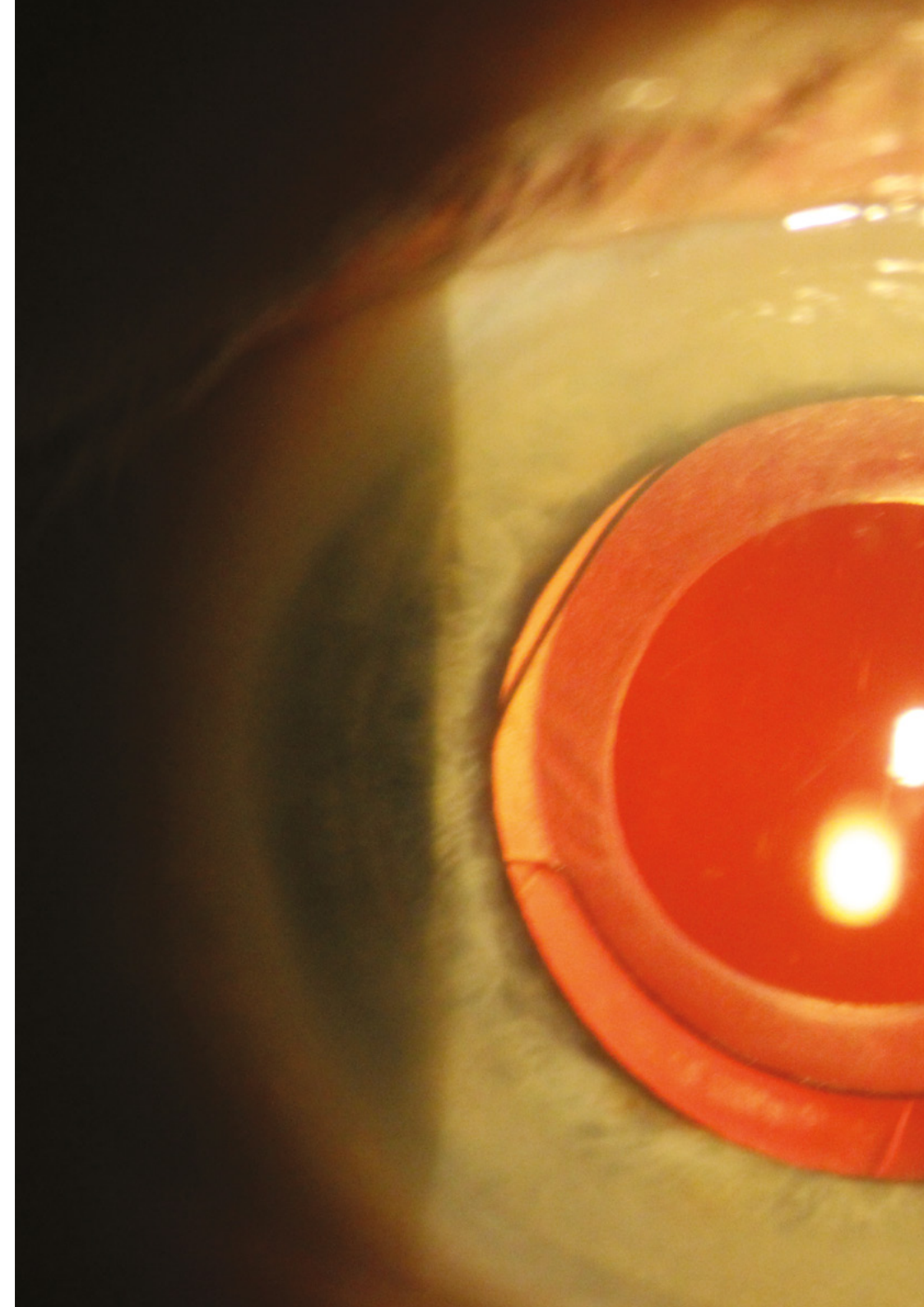
- 1.1. Ocular Embryology and Genetics
 - 1.1.1. Embryonic Period
 - 1.1.2. Development of The Optic Nerve, Retina, Vitreous Body, And Retinal And Choroidal Vasculature
 - 1.1.3. Development of The Lens And Anterior Pole
 - 1.1.4. Development of The Eyelids And Tear Drainage System
 - 1.1.5. Development of The Orbit And Extraocular Muscles
- 1.2. The Growing Visual System
 - 1.2.1. Development of Functional Parameters
 - 1.2.2. Anatomical Development of The Eye
 - 1.2.3. Conclusions
- 1.3. Anatomy and Physiology of Sensory Perception
 - 1.3.1. Phototransduction and Retinal Physiology
 - 1.3.2. Classic Visual Pathway and Extrageniculate Pathways
 - 1.3.3. Visual Cortex. Maturation of The Cortex in Childhood
- 1.4. Binocularity and Associated Processes
 - 1.4.1. Monocular Aspects of Sensory Perception
 - 1.4.2. Binocular Aspects of Sensory Perception
 - 1.4.3. Sensory Adaptations to Abnormal Visual Stimuli
 - 1.4.5. Anatomical and Physiological Foundations of Amblyopia
- 1.5. Anatomy and Physiology of Ocular Motility
 - 1.5.1. Extraocular Muscles
 - 1.5.2. Motor Cranial Nerves
 - 1.5.3. Ductions and Versions. Sherrington and Hering's Laws
 - 1.5.4. Fixation Movements, Saccades, and Slow Pursuits
 - 1.5.5. Vergences and Ocular Reflexes
 - 1.5.6. Intrinsic Ocular Motility
- 1.6. Examination of the Sensory Area
 - 1.6.1. Visual Acuity
 - 1.6.2. Fusion
 - 1.6.3. Stereopsis
 - 1.6.4. Study of the Visual Field in Childhood
- 1.7. Examination of the Motor Area and Ocular Deviation
 - 1.7.1. Ductions and Versions
 - 1.7.2. Convergence
 - 1.7.3. Fusional Vergences
 - 1.7.4. Hirschberg and Krimsky Tests
 - 1.7.5. Cover Test and Its Variants, Biprism, and Prism Adaptation Test
 - 1.7.6. Study of Cyclodeviation
 - 1.7.7. Synoptophore, Hess Screens, and Video-Oculography
- 1.8. Ocular Electrophysiology and Other Tests
 - 1.8.1. Basic Concepts of Bioelectricity
 - 1.8.2. Flash Diffuse Electroretinogram Waves
 - 1.8.3. Multifocal Electroretinogram and Pattern Electroretinogram
 - 1.8.4. Visual Evoked Potentials
 - 1.8.5. Electrooculogram
 - 1.8.6. Electromyography of Extraocular Muscles
- 1.9. Pediatric Ocular Pharmacology
 - 1.9.1. Special Considerations Regarding Metabolism and Pharmacology in Childhood
 - 1.9.2. Ocular Pharmacology in Childhood: Drug Groups
 - 1.9.3. Other Routes of Administration
- 1.10. Visual Screening in Childhood
 - 1.10.1. Importance and Objectives of Visual Screening
 - 1.10.2. Methods and Tools for Visual Screening in Childhood
 - 1.10.3. Implementation and Organization of a Visual Screening Program
 - 1.10.4. Evaluation of the Effectiveness of the Visual Screening Program

Module 2. Refraction, Amblyopia, and Congenital Cataract

- 2.1. Fundamentals of Optics and Refraction I
 - 2.1.1. Light and Laws of Refraction
 - 2.1.2. Optical Elements of the Eye
 - 2.1.3. Basic Concepts of Accommodation
 - 2.1.4. Optical Aberrations, Dispersion, and Diffraction. Polarization Polarization
 - 2.1.5. Basic Concepts of Ametropias
- 2.2. Fundamentals of Optics and Refraction II
 - 2.2.1. Objective and Subjective Refraction
 - 2.2.2. Vision Therapy: General Principles
 - 2.2.3. Pediatric Contact Lens Fitting: Aphakia, Myopia Control, and Ortho-K
 - 2.2.4. New Technologies and Advances in Pediatric Refractive Correction
- 2.3. Management of Ametropias
 - 2.3.1. Childhood Myopia
 - 2.3.2. Hyperopia in Children
 - 2.3.3. Astigmatism in the Pediatric Population
 - 2.3.4. Contemporary Approaches to the Management of Refractive Errors
- 2.4. Accommodation Disorders
 - 2.4.1. Accommodation Function in Pediatric Vision
 - 2.4.2. Evaluation and Diagnosis of Accommodation Insufficiency
 - 2.4.3. Convergence Excess and Its Impact on Vision
 - 2.4.4. Clinical Cases and Challenges in the Treatment of Accommodation Disorders
- 2.5. Amblyopia
 - 2.5.1. Definition and Diagnosis of Amblyopia
 - 2.5.2. Risk Factors and Causes of Amblyopia in Children
 - 2.5.3. Assessment of Visual Acuity in Amblyopia
 - 2.5.4. Amblyopia and Visual Disorders
- 2.6. Amblyopia: Treatment
 - 2.6.1. Occlusion Therapy and Penalization
 - 2.6.2. Inverse Occlusion Therapy and Atropine
 - 2.6.3. Amblyopia Therapy in Adults
 - 2.6.4. Follow-Up and Long-Term Outcomes in Amblyopia Therapy
- 2.7. Leukocoria
 - 2.7.1. Definition and Characteristics of Leukocoria
 - 2.7.2. Causes of Leukocoria in Childhood
 - 2.7.3. Ophthalmological Diagnosis and Evaluation
 - 2.7.4. Retinoblastoma: Diagnosis and Treatment
 - 2.7.5. Multidisciplinary Approach to Leukocoria Cases
 - 2.7.6. Other Conditions Associated with Leukocoria
- 2.8. Congenital Cataract I
 - 2.8.1. Diagnosis and Classification of Congenital Cataracts
 - 2.8.2. Medical and Surgical Treatment of Pediatric Cataracts
 - 2.8.3. Complications and Follow-Up in Congenital Cataracts
 - 2.8.4. Clinical Cases and Special Considerations
- 2.9. Congenital Cataract II
 - 2.9.1. Anomalies Associated with Congenital Cataracts
 - 2.9.2. Management of Cataracts in Premature Infants
 - 2.9.3. Traumatic Cataracts in Children
 - 2.9.4. Innovations in Pediatric Cataract Surgery
- 2.10. Congenital Cataract III
 - 2.10.1. Visual Development in Children with Congenital Cataracts
 - 2.10.2. Visual Rehabilitation in Patients with Cataracts
 - 2.10.3. Research and Advances in the Treatment of Pediatric Cataracts
 - 2.10.4. Prognosis and Outcomes in the Management of Congenital Cataracts

Module 3. Anterior Segment Pathology I

- 3.1. Eyelid Pathology I
 - 3.1.1. Eyelid Infections
 - 3.1.2. Eyelid Malformations
 - 3.1.3. Eyelid Trauma
 - 3.1.4. Conservative Treatments
- 3.2. Eyelid Pathology II. Congenital Ptosis
 - 3.2.1. Diagnosis and Classification of Congenital Ptosis
 - 3.2.2. Evaluation of the Levator Palpebrae Muscle
 - 3.2.3. Surgical Treatment of Ptosis in Children
 - 3.2.4. Long-Term Outcomes in Congenital Ptosis
- 3.3. Orbital Pathology
 - 3.3.1. Clinical and Imaging Evaluation of Orbital Pathology
 - 3.3.2. Orbital Inflammation in Children
 - 3.3.3. Vascular and Malformative Orbital Lesions
 - 3.3.4. Orbital Trauma in the Pediatric Population
- 3.4. Orbital Pathology II. Tumors
 - 3.4.1. Benign Orbital Tumors in Children
 - 3.4.2. Malignant Orbital Tumors in Pediatrics
 - 3.4.3. Multidisciplinary Approach to Orbital Tumors
 - 3.4.4. Clinical Cases and Case Studies
- 3.5. Congenital Nasolacrimal Obstruction and Other Lacrimal Pathology
 - 3.5.1. Diagnosis of Nasolacrimal Obstruction in Infants and Children
 - 3.5.2. Medical and Surgical Treatments
 - 3.5.3. Non-Obstructive Lacrimal Pathology in Childhood
 - 3.5.4. Management of Dacryocystitis and Other Lacrimal Disorders
- 3.6. Conjunctival Pathology I. Infectious
 - 3.6.1. Bacterial Conjunctivitis in Children
 - 3.6.2. Viral Conjunctivitis in the Pediatric Population
 - 3.6.3. Fungal and Parasitic Conjunctivitis in Children
 - 3.6.4. Treatment and Prevention of Infectious Conjunctivitis



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- 3.7. Conjunctival Pathology II. Inflammatory
 - 3.7.1. Allergy Conjunctivitis in Children
 - 3.7.2. Conjunctivitis Associated with Systemic Diseases
 - 3.7.3. Giant Papillary Conjunctivitis
 - 3.7.4. Management Strategies for Inflammatory Conjunctivitis
 - 3.8. Anterior Segment Developmental Disorders I
 - 3.8.1. Embryology and Normal Development of the Anterior Segment
 - 3.8.2. Congenital Malformations of the Anterior Segment
 - 3.8.3. Clinical Evaluation and Differential Diagnosis
 - 3.8.4. Treatment of Congenital Anterior Segment Anomalies
 - 3.9. Anterior Segment Developmental Disorders II
 - 3.9.1. Lens and Capsular Anomalies
 - 3.9.2. Iris and Pupils Anomalies
 - 3.9.3. Disorders of the Anterior Chamber and the Iridocorneal Angle
 - 3.9.4. Surgical Approaches to Anterior Segment Anomalies
 - 3.10. Corneal and Ectatic Pathology in Pediatrics
 - 3.10.1. Evaluation of the Corneal Surface in Children
 - 3.10.2. Corneal Infections in the Pediatric Population
 - 3.10.3. Corneal Ectasias in Children
 - 3.10.4. Medical and Surgical Treatments in Pediatric Corneal Pathology

Module 4. Anterior Segment Pathology II

- 4.1. Evaluation of the Pediatric Glaucoma Patient
 - 4.1.1. Clinical Evaluation in Pediatric Glaucoma
 - 4.1.2. Diagnostic Tests in Childhood Glaucoma
 - 4.1.3. Risk Factors in Pediatric Glaucoma
 - 4.1.4. Clinical Cases in Pediatric Glaucoma
- 4.2. Primary Congenital Glaucoma
 - 4.2.1. Diagnosis and Classification of Primary Congenital Glaucoma
 - 4.2.2. Medical and Surgical Management in Pediatric Glaucoma
 - 4.2.3. Trabeculotomy and Other Surgical Techniques in Childhood Glaucoma
 - 4.2.4. Long-Term Outcomes in Congenital Glaucoma

- 4.3. Juvenile Glaucoma
 - 4.3.1. Characteristics and Diagnosis of Juvenile Glaucoma
 - 4.3.2. Treatments in Juvenile Glaucoma
 - 4.3.3. Follow-Up Strategies in Young Patients with Glaucoma
 - 4.3.4. Secondary Juvenile Glaucoma and Other Pathologies
- 4.4. Other Glaucomas: Aphakic Glaucoma and Those Associated with Other Pathologies
 - 4.4.1. Aphakic Glaucoma in Children: Causes and Management
 - 4.4.2. Secondary Glaucomas due to Pediatric Ocular Diseases
 - 4.4.3. Evaluation and Treatment of Secondary Glaucomas
 - 4.4.4. Case Studies of Glaucomas Associated with Other Pathologies
- 4.5. Treatment and Follow-Up in Pediatric Glaucoma
 - 4.5.1. Medical and Pharmacological Treatments in Childhood Glaucoma
 - 4.5.2. Surgery in Pediatric Glaucoma: Techniques and Outcomes
 - 4.5.3. Long-Term Follow-Up and Management of Glaucoma Complications
 - 4.5.4. Comprehensive Approach to the Pediatric Glaucoma Patient
- 4.6. Pediatric Uveitis I. Examination and Diagnosis
 - 4.6.1. Ophthalmological Evaluation in Pediatric Uveitis
 - 4.6.2. Differential Diagnosis and Diagnostic Tests in Childhood Uveitis
 - 4.6.3. Importance of Medical History in Pediatric Uveitis
 - 4.6.4. Management of Clinical Cases in Pediatric Uveitis
- 4.7. Pediatric Uveitis II. Anterior Uveitis
 - 4.7.1. Characteristics and Diagnosis of Anterior Uveitis in Children
 - 4.7.2. Medical Treatment and Management of Anterior Inflammation in Pediatric Uveitis
 - 4.7.3. Anterior Uveitis Associated with Systemic Diseases in Childhood
 - 4.7.4. Follow-Up in Pediatric Anterior Uveitis
- 4.8. Pediatric Uveitis III. Intermediate Uveitis
 - 4.8.1. Clinical Evaluation and Diagnosis of Intermediate Uveitis in Children
 - 4.8.2. Treatment and Control of Inflammation in Pediatric Intermediate Uveitis
 - 4.8.3. Complications and Case Management in Intermediate Uveitis
 - 4.8.4. Multidisciplinary Approach in Pediatric Intermediate Uveitis

- 4.9. Pediatric Uveitis IV. Posterior Uveitis
 - 4.9.1. Posterior Uveitis in Children: Causes and Diagnosis
 - 4.9.2. Therapies and Treatments in Pediatric Posterior Uveitis
 - 4.9.3. Long-Term Follow-Up and Prognosis in Posterior Uveitis
 - 4.9.4. Clinical Cases and Case Studies in Childhood Posterior Uveitis
- 4.10. Aniridia
 - 4.10.1. Clinical Characteristics and Diagnosis of Aniridia
 - 4.10.2. Multidisciplinary Approach to Patients with Aniridia
 - 4.10.3. Treatments and Follow-Up in Pediatric Aniridia
 - 4.10.4. Visual Outcomes and Management of Complications in Aniridia

Module 5. Pediatric Retina

- 5.1. Retinoblastoma
 - 5.1.1. Epidemiology and Risk Factors
 - 5.1.2. Diagnosis and Classification of Retinoblastoma
 - 5.1.3. Treatment Methods: Enucleation and Eye Preservation
 - 5.1.4. Outcomes and Follow-Up in Retinoblastoma
- 5.2. Retinoblastoma: Treatment
 - 5.2.1. Advanced Treatments in Retinoblastoma
 - 5.2.2. Complications and Management of Side Effects
 - 5.2.3. Survival and Quality of Life in Retinoblastoma Patients
 - 5.2.4. Clinical Cases and Case Studies in Retinoblastoma
- 5.3. Retinopathy of Prematurity (ROP)
 - 5.3.1. Pathophysiology of Retinopathy of Prematurity
 - 5.3.2. Staging of ROP
 - 5.3.3. Evaluation and Diagnosis of ROP
 - 5.3.4. Long-Term Outcomes in ROP
- 5.4. Retinopathy of Prematurity: Treatment and Follow-Up
 - 5.4.1. Therapeutic Management Options in Retinopathy of Prematurity
 - 5.4.2. Long-Term Follow-Up and Care in ROP Patients
 - 5.4.3. Prevention and Management Strategies in ROP
 - 5.4.4. Clinical Cases and Experiences in ROP

- 5.5. Hereditary Retinal Disorders I
 - 5.5.1. Retinitis Pigmentosa: Diagnosis and Classification
 - 5.5.2. Genetic Approaches in Hereditary Retinal Disorders
 - 5.5.3. Therapies and Treatments in Retinitis Pigmentosa
 - 5.5.4. Research and Advances in Gene Therapy
- 5.6. Hereditary Retinal Disorders II
 - 5.6.1. Cone-Rod Dystrophies: Diagnosis and Management
 - 5.6.2. Retinal Pigment Epithelium Atrophy (RPEA)
 - 5.6.3. Therapies and Treatments in Hereditary Retinal Dystrophies
 - 5.6.4. Comprehensive Approach in Patients with Hereditary Retinal Disorders
- 5.7. Hereditary Retinal Disorders III
 - 5.7.1. Choroideremia: Diagnosis and Therapeutic Approach
 - 5.7.2. Usher Syndrome and Other Rare Diseases
 - 5.7.3. Quality of Life and Psychological Support in Patients with Hereditary Retinal Disorders
 - 5.7.4. Clinical Cases and Advances in Research
- 5.8. Vascular Retinal Anomalies
 - 5.8.1. Retinal Hemangiomas and Telangiectasias
 - 5.8.2. Retinal Vascular Malformations
 - 5.8.3. Diagnosis and Treatment of Vascular Anomalies
 - 5.8.4. Visual Outcomes and Prognosis in Patients with Vascular Anomalies
- 5.9. Acquired Disorders
 - 5.9.1. Ocular Trauma in Childhood
 - 5.9.2. Retinal Inflammation and Infection in Children
 - 5.9.3. Age-Related Macular Degeneration in Pediatric Patients
 - 5.9.4. Other Acquired Retinal Pathologies in Children
- 5.10. Retinal Detachment in Pediatrics
 - 5.10.1. Causes and Risk Factors in Pediatric Retinal Detachment
 - 5.10.2. Clinical Assessment and Diagnosis
 - 5.10.3. Medical and Surgical Treatments in Retinal Detachment
 - 5.10.4. Outcomes and Follow-Up in Pediatric Retinal Detachment Patients

Module 6. Pediatric Strabismus

- 6.1. Introduction to Strabismus
 - 6.1.1. Definition and Basic Concepts in Strabismus
 - 6.1.2. Importance of Strabismus in Childhood
 - 6.1.3. Initial Assessment in Patients with Strabismus
 - 6.1.4. Multidisciplinary Approach in Pediatric Strabismus
- 6.2. Esotropias
 - 6.2.1. Classification and Types of Esotropias
 - 6.2.2. Etiology and Risk Factors
 - 6.2.3. Diagnosis and Examination in Esotropias
 - 6.2.4. Medical and Surgical Treatments in Esotropias
- 6.3. Exotropias
 - 6.3.1. Characteristics and Classification of Exotropias
 - 6.3.2. Diagnosis and Assessment in Exotropias
 - 6.3.3. Therapeutic Management in Exotropias
 - 6.3.4. Visual and Functional Outcomes in Exotropias
- 6.4. Vertical Strabismus
 - 6.4.1. Types and Classification of Vertical Strabismus
 - 6.4.2. Assessment and Diagnosis in Vertical Strabismus
 - 6.4.3. Treatments in Vertical Strabismus
 - 6.4.4. Management of Complex Strabismus
- 6.5. Alphabet Patterns
 - 6.5.1. Alphabet Strabismus Patterns: A, V, X, Y, and Others
 - 6.5.2. Interpretation and Diagnosis of Alphabet Patterns
 - 6.5.3. Specific Treatments for Alphabet Patterns
 - 6.5.4. Clinical Cases and Examples of Alphabet Patterns
- 6.6. Congenital Cranial Dysinnervation Disorders
 - 6.6.1. Oculomotor Paresis and Paralysis in Childhood
 - 6.6.2. Differential Diagnosis in Dysinnervation Disorders
 - 6.6.3. Therapeutic Management and Rehabilitation in Dysinnervation Disorders
 - 6.6.4. Follow-Up and Outcomes in Patients with Dysinnervation Disorders

- 6.7. Oculomotor Nerve Palsies
 - 6.7.1. Third Cranial Nerve Palsy: Evaluation and Treatment
 - 6.7.2. Fourth Cranial Nerve Palsy: Diagnosis and Therapeutic Approach
 - 6.7.3. Sixth Cranial Nerve Palsy: Management and Outcomes
 - 6.7.4. Complications and Sequelae in Oculomotor Nerve Palsies
- 6.8. Non-Surgical Treatment of Strabismus
 - 6.8.1. Occlusion Therapy in Strabismus
 - 6.8.2. Prism Therapy and Visual Exercises
 - 6.8.3. Orthoptic Therapy and Visual Stimulation
 - 6.8.4. Indications and Outcomes in Non-Surgical Treatment
- 6.9. Surgical Treatment
 - 6.9.1. Strabismus Surgery: Techniques and Procedures
 - 6.9.2. Pre-Surgical Planning in Strabismus Surgery
 - 6.9.3. Intraoperative and Postoperative Complications
 - 6.9.4. Outcomes and Follow-Up in Strabismus Surgery
- 6.10. Complications of Strabismus Surgery
 - 6.10.1. Common Complications in Strabismus Surgery
 - 6.10.2. Management of Intraoperative Complications
 - 6.10.3. Long-Term Complications and Their Management
 - 6.10.4. Prevention Strategies in Strabismus Surgery Complications

Module 7. Pediatric Neuro-Ophthalmology

- 7.1. Nystagmus I
 - 7.1.1. Definition and Classification of Nystagmus
 - 7.1.2. Etiology and Diagnosis of Nystagmus
 - 7.1.3. Congenital Nystagmus: Characteristics and Diagnosis
 - 7.1.4. Acquired Nystagmus in Childhood
- 7.2. Nystagmus II
 - 7.2.1. Therapeutic Approach and Management in Nystagmus
 - 7.2.2. Case Studies and Examples of Nystagmus
 - 7.2.3. Advanced Therapies and Treatments in Nystagmus
 - 7.2.4. Visual Outcomes and Prognosis in Pediatric Nystagmus





- 7.3. Supranuclear and Internuclear Motility Disorders
 - 7.3.1. Supranuclear Ocular Motility Disorders
 - 7.3.2. Internuclear Ocular Motility Disorders
 - 7.3.3. Assessment and Diagnosis in Supranuclear and Internuclear Disorders
 - 7.3.4. Management and Treatment of Ocular Motility Disorders
- 7.4. Congenital Optic Nerve Anomalies
 - 7.4.1. Structural Anomalies of the Optic Nerve
 - 7.4.2. Diagnosis and Classification of Congenital Anomalies
 - 7.4.3. Visual Implications and Outcomes in Patients with Optic Nerve Anomalies
 - 7.4.4. Clinical Cases and Examples of Congenital Abnormalities
- 7.5. Hereditary Optic Neuropathies
 - 7.5.1. Leber's Hereditary Optic Neuropathy (LHON)
 - 7.5.2. Other Hereditary Optic Neuropathies
 - 7.5.3. Genetic Studies and Diagnosis in Optic Neuropathies
 - 7.5.4. Therapies and Treatments in Hereditary Optic Neuropathies
- 7.6. Optic Atrophy in Children
 - 7.6.1. Causes and Risk Factors in Pediatric Optic Atrophy
 - 7.6.2. Assessment and Diagnosis of Optic Atrophy in Children
 - 7.6.3. Management and Treatment of Optic Atrophy in Childhood
 - 7.6.4. Visual Outcomes and Follow-Up in Pediatric Optic Atrophy
- 7.7. Pediatric Optic Neuritis
 - 7.7.1. Optic Neuritis in Children: Etiology and Characteristics
 - 7.7.2. Diagnosis and Assessment in Pediatric Optic Neuritis
 - 7.7.3. Therapies and Treatment in Childhood Optic Neuritis
 - 7.7.4. Prognosis and Follow-Up in Optic Neuritis
- 7.8. Pseudopapilledema. Optic Nerve Drusen
 - 7.8.1. Pseudopapilledema in Childhood
 - 7.8.2. Optic Nerve Drusen: Diagnosis and Classification
 - 7.8.3. Management and Follow-Up in Pseudopapilledema and Drusen
 - 7.8.4. Clinical Cases and Examples of Pseudopapilledema

- 7.9. Papilledema, Intracranial Hypertension
 - 7.9.1. Papilledema in Children: Causes and Diagnosis
 - 7.9.2. Intracranial Hypertension in Childhood
 - 7.9.3. Treatment and Management of Papilledema and Intracranial Hypertension
 - 7.9.4. Visual Outcomes and Follow-Up in Patients with These Conditions
- 7.10. Pupillary Anomalies
 - 7.10.1. Pupillary Anomalies in Childhood
 - 7.10.2. Diagnosis and Assessment of Pupillary Anomalies
 - 7.10.3. Treatments and Management of Pupillary Anomalies
 - 7.10.4. Clinical Cases and Examples of Pupillary Anomalies

Module 8. Functional Aspects of Vision and Other Associated Disorders

- 8.1. Child with Low Vision
 - 8.1.1. Assessment and Diagnosis of Low Vision in Children
 - 8.1.2. Multidisciplinary Approach in Children with Low Vision
 - 8.1.3. Visual Aids and Assistive Devices
 - 8.1.4. Rehabilitation and Therapy in Children with Low Vision
- 8.2. Cerebral Visual Impairment I
 - 8.2.1. Characteristics and Diagnosis of Cerebral Visual Impairment (CVI)
 - 8.2.2. Etiology and Risk Factors in CVI
 - 8.2.3. Therapies and Treatments in CVI
 - 8.2.4. Outcomes and Prognosis in Children with CVI
- 8.3. Cerebral Visual Impairment II
 - 8.3.1. Functional and Cognitive Evaluation in CVI
 - 8.3.2. Educational Intervention and Support in CVI
 - 8.3.3. Clinical Cases and Examples of CVI
 - 8.3.4. Research and Advances in Cerebral Visual Impairment
- 8.4. Visual Maturation Delay
 - 8.4.1. Evaluation and Diagnosis of Visual Maturation Delay
 - 8.4.2. Early Intervention and Visual Stimulation
 - 8.4.3. Therapeutic Approach in Children with Visual Maturation Delay
 - 8.4.4. Outcomes and Follow-Up in Visual Maturation Delay
- 8.5. Prematurity Syndrome
 - 8.5.1. Retinopathy of Prematurity: Diagnosis and Classification
 - 8.5.2. Treatment and Follow-Up in Retinopathy of Prematurity
 - 8.5.3. Visual Complications in Premature Children
 - 8.5.4. Prevention and Care in Prematurity Syndrome
- 8.6. Cerebral Palsy in Children
 - 8.6.1. Classification and Types of Cerebral Palsy (CP)
 - 8.6.2. Functional Evaluation and Diagnosis in CP
 - 8.6.3. Therapeutic Approaches in CP
 - 8.6.4. Specific Therapies and Treatments in CP
- 8.7. Cerebral Palsy and Vision
 - 8.7.1. Complications and Visual Problems in CP
 - 8.7.2. Neuropsychological Aspects in Children with CP
 - 8.7.3. Quality of Life and Support in CP
 - 8.7.4. Clinical Cases and Experiences in CP
- 8.8. Approach to Common Problems in Children with Visual Disabilities
 - 8.8.1. Learning and Developmental Problems in Children with Visual Disabilities
 - 8.8.2. Communication and Social Skills in Children with Visual Disabilities
 - 8.8.3. Educational and Social Inclusion in Children with Visual Disabilities
 - 8.8.4. Strategies and Resources for Families of Children with Visual Disabilities
- 8.9. Simulation in the Child
 - 8.9.1. Simulation of Visual Disabilities in Children
 - 8.9.2. Benefits and Limitations of Simulation
 - 8.9.3. Awareness and Empathy Toward Children with Visual Disabilities
 - 8.9.4. Simulation Tools and Techniques
- 8.10. Dyslexia, Crossed Laterality, and Other Disorders
 - 8.10.1. Dyslexia in Children: Diagnosis and Management
 - 8.10.2. Crossed Laterality in Childhood
 - 8.10.3. Other Learning and Developmental Disorders in Children
 - 8.10.4. Educational Strategies and Support in Dyslexia and Related Disorders

Module 9. Ophthalmological Manifestations of Pediatric Systemic Pathology

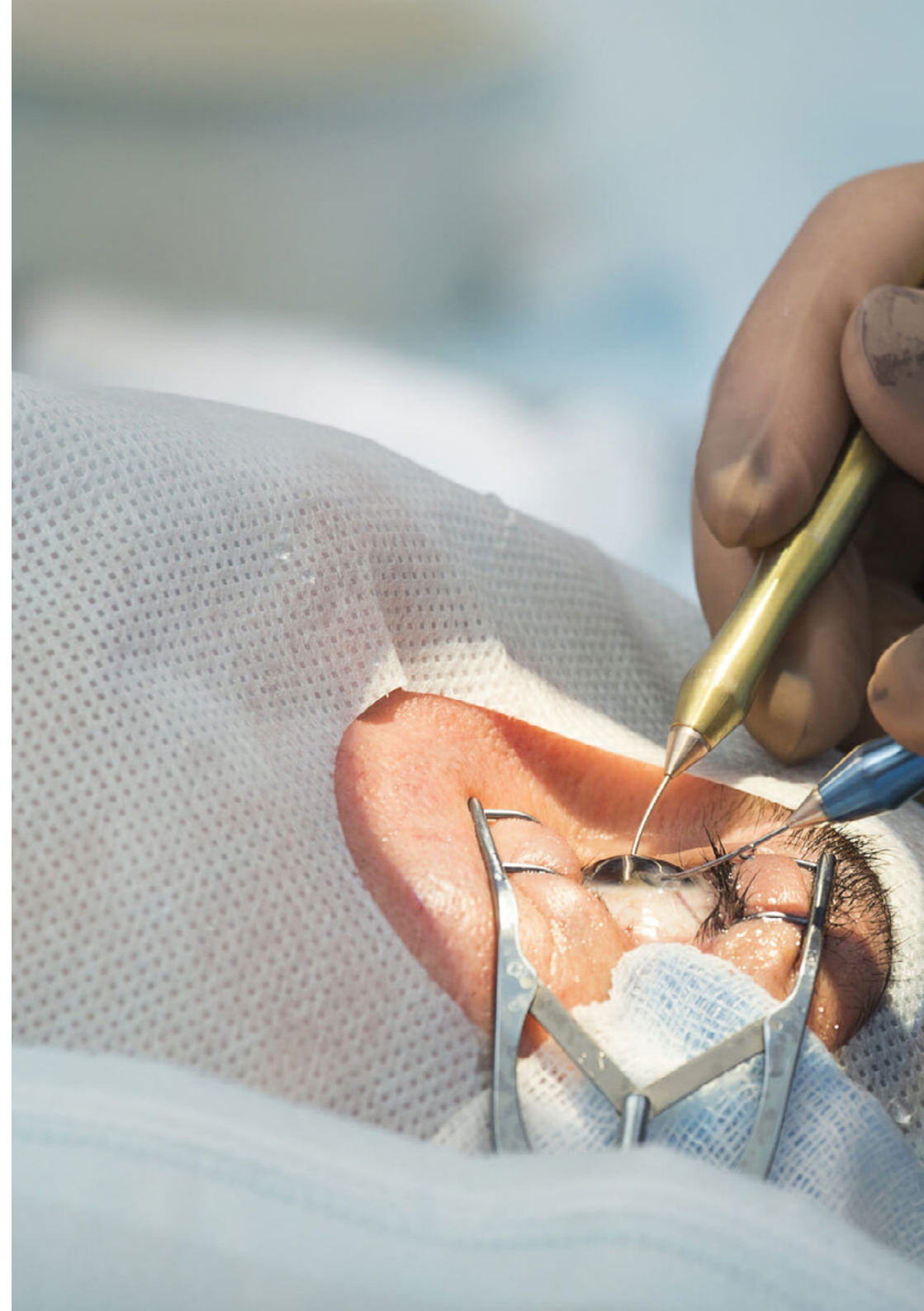
- 9.1. Phacomatosis
 - 9.1.1. Phacomatoses: Definition and Classification
 - 9.1.2. Syndromes and Disorders Related to Phacomatoses
 - 9.1.3. Assessment and Diagnosis in Children with Phacomatoses
 - 9.1.4. Treatments and Therapeutic Approaches in Phacomatoses
- 9.2. Neurofibromatosis
 - 9.2.1. Neurofibromatosis Type 1 (NF1): Characteristics and Diagnosis
 - 9.2.2. Neurofibromatosis Type 2 (NF2): Assessment and Management
 - 9.2.3. Other Forms of Neurofibromatosis
 - 9.2.4. Clinical Cases and Examples of Neurofibromatosis in Children
- 9.3. Pediatric Tumoral Pathology I: CNS
 - 9.3.1. Brain Tumors in Children: Types and Classification
 - 9.3.2. Diagnosis and Evaluation of Central Nervous System (CNS) Tumors
 - 9.3.3. Treatments and Surgery in Pediatric Brain Tumors
 - 9.3.4. Follow-Up and Prognosis in Pediatric CNS Tumors
- 9.4. Pediatric Tumoral Pathology II: Leukemia, Neuroblastoma
 - 9.4.1. Leukemia in Children: Diagnosis and Classification
 - 9.4.2. Neuroblastoma in Childhood: Etiology and Characteristics
 - 9.4.3. Treatments and Therapies in Pediatric Leukemia and Neuroblastoma
 - 9.4.4. Outcomes and Prognosis in Pediatric Leukemia and Neuroblastoma
- 9.5. Mitochondrial Pathology
 - 9.5.1. Mitochondrial Disorders in Childhood
 - 9.5.2. Diagnosis and Assessment of Mitochondrial Pathology
 - 9.5.3. Treatments and Therapeutic Approaches in Mitochondrial Disorders
 - 9.5.4. Research and Advances in Mitochondrial Pathology
- 9.6. Neurometabolic Disorders
 - 9.6.1. Neurometabolic Disorders in Children: Classification
 - 9.6.2. Assessment and Diagnosis of Neurometabolic Disorders
 - 9.6.3. Therapies and Treatments in Pediatric Neurometabolic Disorders
 - 9.6.4. Outcomes and Follow-Up in Neurometabolic Disorders

- 9.7. Intrauterine Disorders and Perinatal Infection
 - 9.7.1. Intrauterine Disorders in Ocular Development
 - 9.7.2. Perinatal Infection and Its Impact on Vision
 - 9.7.3. Diagnosis and Management of Intrauterine Disorders and Perinatal Infection
 - 9.7.4. Complications and Prognosis in Intrauterine Disorders and Perinatal Infection
- 9.8. Other Systemic Pathologies: Albinism, Marfan Syndrome, etc
 - 9.8.1. Albinism in Children: Characteristics and Diagnosis
 - 9.8.2. Marfan Syndrome and Other Systemic Disorders
 - 9.8.3. Ophthalmological Assessment and Care in Cases of Systemic Pathologies
 - 9.8.4. Multidisciplinary Approach in Patients with Systemic Pathologies
- 9.9. Pediatric Ocular Trauma
 - 9.9.1. Types and Causes of Ocular Trauma in Children
 - 9.9.2. Assessment and Diagnosis of Pediatric Ocular Trauma
 - 9.9.3. Treatments and Management in Ocular Trauma
 - 9.9.4. Outcomes and Follow-Up in Childhood Ocular Trauma Cases
- 9.10. Battered Child Syndrome
 - 9.10.1. Identification and Evaluation of Battered Child Syndrome
 - 9.10.2. Intervention and Support in Cases of Child Abuse
 - 9.10.3. Legal and Ethical Aspects of Battered Child Syndrome
 - 9.10.4. Clinical Cases and Experiences in Battered Child Syndrome

Module 10. Practical Management of Special Situations in Pediatric Ophthalmology

- 10.1. The Child Who Cannot See
 - 10.1.1. Causes of Visual Impairment in Children
 - 10.1.2. Medical History and Evaluation in the Child with Visual Loss
 - 10.1.3. Diagnosis and Management in Cases of Visual Impairment in Childhood
 - 10.1.4. Communication Strategies and Support in Children with Visual Disabilities
- 10.2. Neonate with Conjunctivitis
 - 10.2.1. Neonatal Conjunctivitis: Causes and Diagnosis
 - 10.2.2. Therapeutic Approach in Neonates with Conjunctivitis
 - 10.2.3. Complications and Prognosis in Neonatal Conjunctivitis
 - 10.2.4. Clinical Cases and Examples of Conjunctivitis in Newborns

- 10.3. JIA: How to Approach It
 - 10.3.1. Juvenile Idiopathic Arthritis (JIA): Classification and Subtypes
 - 10.3.2. Ocular Manifestations in JIA
 - 10.3.3. Diagnosis and Assessment of Ocular JIA
 - 10.3.4. Treatments and Therapies in Ocular JIA
- 10.4. Epiphora Despite Probing
 - 10.4.1. Epiphora in Children: Causes and Evaluation
 - 10.4.2. Nasolacrimal Probing in Pediatric Epiphora
 - 10.4.3. Alternative Treatments in Persistent Epiphora
 - 10.4.4. Outcomes and Follow-Up in Epiphora Despite Probing
- 10.5. Acute Strabismus in the Child
 - 10.5.1. Acute Strabismus in Children: Causes and Diagnosis
 - 10.5.2. Early Assessment and Management of Acute Strabismus
 - 10.5.3. Treatments and Surgery in Acute Strabismus
 - 10.5.4. Outcomes and Prognosis in Childhood Acute Strabismus
- 10.6. ROP: What Do I See and How Do I Treat It?
 - 10.6.1. Retinopathy of Prematurity (ROP): Stages and Classification
 - 10.6.2. Diagnosis and Assessment in ROP
 - 10.6.3. Treatments and Follow-Up in ROP
 - 10.6.4. Clinical Cases and Examples of ROP in Premature Newborns
- 10.7. Papilledema
 - 10.7.1. Papilledema in Children: Causes and Diagnosis
 - 10.7.2. Ophthalmological Assessment in Cases of Papilledema
 - 10.7.3. Treatments and Management in Papilledema
 - 10.7.4. Outcomes and Follow-Up in Children with Papilledema





- 10.8. Practical Approach to Pediatric Anisocoria
 - 10.8.1. Anisocoria in Childhood: Causes and Classification
 - 10.8.2. Assessment and Diagnosis of Pediatric Anisocoria
 - 10.8.3. Practical Management of Anisocoria in Children
 - 10.8.4. Clinical Cases and Examples of Pediatric Anisocoria
- 10.9. Optic Disc Pallor: Practical Approach
 - 10.9.1. Optic Disc Pallor in Children: Causes and Diagnosis
 - 10.9.2. Assessment and Testing in Cases of Optic Disc Pallor
 - 10.9.3. Treatment and Follow-Up in Children with Optic Disc Pallor
 - 10.9.4. Clinical Cases and Examples of Optic Disc Pallor
- 10.10. Unusual Ocular Movements in the Child
 - 10.10.1. Types and Characteristics of Unusual Ocular Movements in Childhood
 - 10.10.2. Diagnosis and Assessment in Cases of Atypical Ocular Movements
 - 10.10.3. Therapeutic Approach and Management of Unusual Ocular Movements
 - 10.10.4. Outcomes and Prognosis in Children with Atypical Ocular Movements

“

*With the revolutionary Relearning methodology,
you will optimally integrate all knowledge to
successfully achieve the results you seek”*

04

Teaching Objectives

The design of this Hybrid Master's Degree will enable graduates to acquire advanced competencies for the effective management of the most prevalent pediatric visual pathologies. Through a theoretical-practical approach, professionals will update their knowledge of specialized diagnostic, therapeutic, and surgical techniques. In this way, they will develop precise clinical skills to intervene in cases of amblyopia, strabismus, and even congenital cataracts.



“

You will be able to diagnose early conditions such as amblyopia, strabismus, and congenital cataracts”



General Objective

- This postgraduate program will provide graduates with precise clinical skills to intervene in cases of amblyopia, strabismus, congenital cataracts, and other pediatric visual disorders. Thanks to an updated academic approach focused on clinical practice, professionals will integrate new diagnostic and therapeutic tools. In this way, they will deliver highly specialized ophthalmological care that positively impacts visual development and the quality of life of pediatric patients



You will perform and interpret complementary tests such as fundus examination, retinography, visual field testing, and pediatric orthoptic assessments”





Specific Objectives

Module 1. Foundations of Vision Development

- ♦ Analyze the embryological and genetic development of the pediatric visual system to understand the anatomical and functional bases of ocular structures
- ♦ Identify the processes of anatomical and functional development of the growing visual system to evaluate potential childhood alterations
- ♦ Understand the physiology of sensory perception and the mechanisms of phototransduction to correctly interpret visual responses in children
- ♦ Examine the monocular and binocular aspects of sensory perception to recognize adaptations to abnormal visual stimuli and the bases of amblyopia
- ♦ Describe the anatomical and physiological foundations of ocular motility and binocularity to perform accurate clinical assessments in pediatric patients
- ♦ Evaluate sensory, motor, and electrophysiological tests for the early diagnosis of visual alterations in childhood

Module 2. Refraction, Amblyopia, and Congenital Cataract

- ♦ Identify the fundamental principles of optics and refraction to correctly apply pediatric diagnostic techniques
- ♦ Analyze the most frequent refractive errors in children and their current methods of correction
- ♦ Evaluate accommodation disorders to achieve precise diagnosis and plan appropriate interventions
- ♦ Recognize the clinical features and risk factors associated with amblyopia to establish effective therapeutic strategies
- ♦ Address the diagnosis and treatment of congenital cataract, considering complications and necessary follow-up.
- ♦ Understand the impact of leukocoria and its association with severe pathologies to optimize early diagnosis and multidisciplinary management

Module 3. Anterior Segment Pathology I

- ♦ Identify the main eyelid and orbital pathologies in pediatric patients to establish accurate diagnoses and effective treatments
- ♦ Evaluate developmental anomalies of the anterior segment and their impact on pediatric vision to design appropriate interventions
- ♦ Analyze the clinical characteristics of congenital ptosis and determine the most suitable surgical approach for each case
- ♦ Recognize infectious diseases of the pediatric conjunctiva and implement therapeutic and preventive measures
- ♦ Address congenital and acquired lacrimal pathologies, considering both medical and surgical treatments depending on complexity
- ♦ Understand corneal malformations and ectatic disorders to optimize medical and surgical management in pediatric patients

Module 4. Anterior Segment Pathology II

- ♦ Evaluate the clinical features and diagnostic methods of pediatric glaucoma to define adequate treatment and follow-up strategies
- ♦ Identify the manifestations and complications of uveitis in childhood to implement effective management and prevent visual sequelae
- ♦ Address primary congenital and juvenile glaucoma using the most updated medical and surgical approaches
- ♦ Analyze secondary glaucomas and those associated with other ocular pathologies to establish comprehensive, personalized treatment
- ♦ Recognize the clinical manifestations of aniridia and its impact on visual development, implementing comprehensive multidisciplinary care
- ♦ Examine medical and surgical treatments available for pediatric glaucoma and assess long-term prognosis in young patients

Module 5. Pediatric Retina

- ♦ Analyze the diagnosis and comprehensive management of retinoblastoma, considering treatment methods and necessary follow-up
- ♦ Identify strategies for the evaluation, treatment, and follow-up of pediatric patients with retinopathy of prematurity
- ♦ Examine hereditary retinal disorders, addressing diagnosis, therapeutic management, and advances in gene therapies
- ♦ Recognize and manage retinal vascular anomalies in children, evaluating their visual impact and prognosis
- ♦ Address acquired retinal disorders in childhood, with a focus on trauma, inflammation, and infections
- ♦ Evaluate the diagnosis, treatment, and follow-up of pediatric retinal detachment to minimize visual complications

Module 6. Pediatric Strabismus

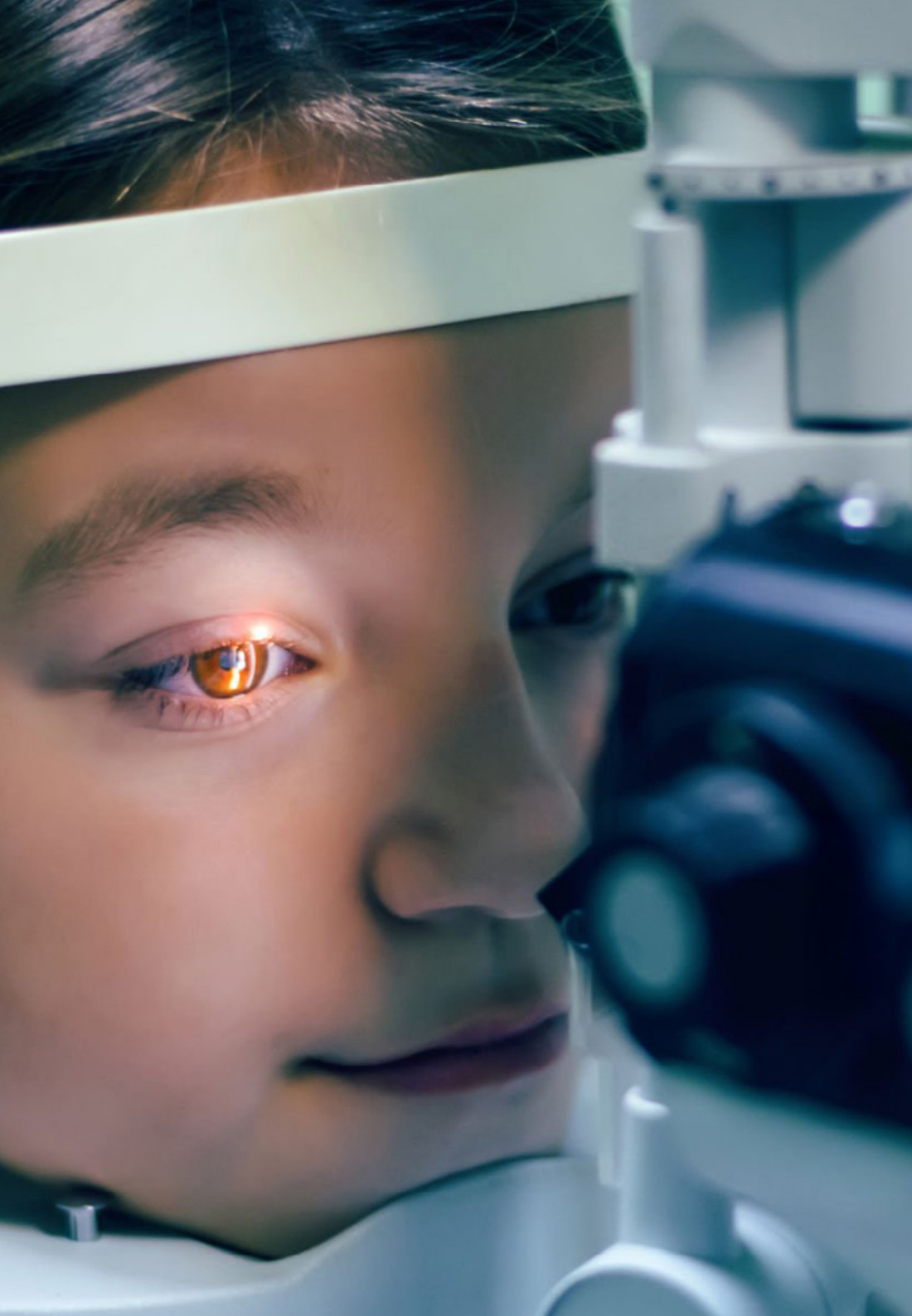
- ♦ Identify the characteristics and methods of evaluation of pediatric strabismus, considering its impact on visual development
- ♦ Analyze different types of esotropias and exotropias, covering their diagnosis and medical or surgical treatment
- ♦ Explore therapeutic approaches to vertical strabismus, focusing on comprehensive management and functional outcomes
- ♦ Address congenital cranial dysinnervation disorders and oculomotor nerve palsies, considering differential diagnosis and rehabilitation
- ♦ Examine non-surgical treatment options for strabismus, including occlusion therapy, prisms, and orthoptic exercises
- ♦ Evaluate surgical techniques and management of complications in strabismus surgery, as well as postoperative follow-up

Module 7. Pediatric Neuro-Ophthalmology

- ♦ Recognize the different types of pediatric nystagmus, their diagnosis, and treatment options, considering their impact on visual function
- ♦ Investigate supranuclear and internuclear ocular motility disorders in childhood, assessing diagnosis and therapeutic management
- ♦ Explore congenital anomalies and hereditary optic neuropathies, addressing clinical features, genetic diagnosis, and therapeutic possibilities
- ♦ Analyze the causes, diagnosis, and management of pediatric optic atrophy and optic neuritis, considering prognosis and appropriate follow-up
- ♦ Examine the clinical manifestations and management of pseudopapilledema, optic nerve drusen, and papilledema associated with intracranial hypertension
- ♦ Address pupillary anomalies in childhood, considering differential diagnosis and available treatment options

Module 8. Functional Aspects of Vision and Other Associated Disorders

- ♦ Identify the factors associated with pediatric low vision, its diagnosis, and rehabilitation methods to improve visual performance and quality of life
- ♦ Explore the diagnosis and treatment of cerebral visual impairment (CVI), considering functional implications and its impact on child development
- ♦ Analyze diagnostic challenges and therapeutic strategies in children with visual maturation delay, highlighting the importance of early intervention
- ♦ Evaluate visual complications associated with prematurity syndrome and retinopathy, as well as approaches for prevention and management



Module 9. Ophthalmological Manifestations of Pediatric Systemic Pathology

- ♦ Identify ocular manifestations associated with phacomatoses and related syndromes, considering accurate diagnosis and appropriate treatment
- ♦ Analyze major pediatric brain tumors and their impact on vision, focusing on early diagnosis, treatment, and long-term follow-up
- ♦ Explore ocular complications related to leukemia and neuroblastoma in children, addressing therapeutic management and visual prognosis
- ♦ Evaluate mitochondrial and neurometabolic disorders in childhood, considering their ocular manifestations and treatment strategies
- ♦ Address the impact of child abuse on visual health, considering warning signs as well as ethical and legal aspects in case management

Module 10. Practical Management of Special Situations in Pediatric Ophthalmology

- ♦ Identify the most common causes of visual impairment in childhood and strategies for an appropriate diagnostic approach
- ♦ Address ocular manifestations and specific treatments in children with juvenile idiopathic arthritis
- ♦ Explore the management and treatment of persistent epiphora in children after nasolacrimal probing
- ♦ Examine the stages and treatment methods of retinopathy of prematurity.
- ♦ Analyze the causes and diagnostic strategies of papilledema in childhood

05 Internship

After completing the online theoretical period, this university program provides graduates with the opportunity to undertake Practical Training at a leading clinical center in Pediatric Ophthalmology. Throughout this placement, physicians will receive the support of a dedicated tutor, who will guide them during both the preparation and the clinical training period.



“

*You will carry out a Internship
Program at a reference institution
in Pediatric Ophthalmology”*

The Practical Training period of this program in Pediatric Ophthalmology consists of a three-week clinical rotation at a recognized institution, Monday through Friday, with eight consecutive hours of practical training per day alongside an attending specialist. This rotation will allow graduates to actively participate in clinical consultations, functional examinations, advanced diagnostic testing, and surgical procedures adapted to pediatric patients.

With its strongly practice-oriented approach, this training is designed to develop and refine the competencies required to provide pediatric ophthalmological care in clinical settings that demand the highest level of expertise. The goal is to train specialists who can intervene safely and effectively in the diagnosis, treatment, and follow-up of childhood visual pathologies.

This is undoubtedly a unique opportunity to learn by doing in an innovative clinical environment, where pediatric ophthalmology care is combined with cutting-edge technology. In this "hospital of the future," real-time monitoring of pediatric patients' visual status is an essential component of the digital culture of its professionals, offering an academic experience aligned with the highest standards of 21st-century medicine.

The practical teaching will be done with the accompaniment and guidance of professors and other fellow trainees that facilitate teamwork and multidisciplinary integration as transversal competencies for medical praxis (learning to be and learning to relate).

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





Module	Practical Activity
Holistic Approach to Congenital Cataract and Amblyopia	Perform comprehensive refractive evaluations in children, including retinoscopy and the use of autorefraction devices adapted for pediatric patients
	Adapt corrective lenses to correct refractive errors such as myopia, hyperopia, and astigmatism
	Implement and supervise orthoptic treatments for amblyopia, including occlusion, penalization, and visual therapy
	Carry out rigorous follow-up to assess the effectiveness of the treatment and adjust therapeutic strategies according to the patient's response
Retinal Disorders in Pediatric Patients	Perform specific ophthalmic examinations such as fluorescein angiography adapted for pediatric patients and pediatric optical coherence tomography to assess retinal health
	Early diagnose retinal detachment caused by trauma or congenital factors
	Participate in retinal surgical interventions, such as pediatric vitrectomy, to treat complex retinal diseases
	Provide guidance and support in the visual rehabilitation of pediatric patients with retinal damage to maximize visual and functional development
Management of Pediatric Strabismus	Conduct early diagnosis of strabismus through clinical exams and complementary ocular motility tests
	Detect underlying causes of strabismus, including neurological or refractive issues
	Prescribe corrective lenses to address associated refractive errors that may contribute to strabismus
	Educate parents on the condition, treatment options, and the importance of therapeutic adherence
Ocular Signs Associated with Systemic Pathologies in Children	t
	Perform regular ophthalmic follow-up in patients with chronic conditions that may affect vision in the long term
	Educate families on the importance of visual check-ups for children with systemic diseases
	Participate in screening programs and prevention of visual complications in pediatric high-risk populations

Civil Liability Insurance

The university's main concern is to guarantee the safety of the interns, other collaborating professionals involved in the internship process at the center. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

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

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



General Conditions of the Internship Program

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

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

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

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

4. CERTIFICATION: Professionals who complete the Hybrid Master's Degree will receive a diploma accrediting their attendance at the institution.

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

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

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

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

06 Internship Centers

Below are some of the internship centers selected by TECH Global University for this program. However, if none of them meet your expectations or needs, TECH is committed to facilitating the formalization of an agreement with an entity that aligns with your preferences, ensuring a fully personalized experience.



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You will undertake a three-week Internship Program at a renowned institution specializing in Pediatric Ophthalmology”



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



Medicine

Miranza Clínica Muiños

Country	City
Spain	Santa Cruz de Tenerife

Address: C. Emilio Serra Fernández De Moratín, 6,
38006 Santa Cruz de Tenerife

It is a specialized ophthalmic center that provides comprehensive eye health care

Related internship programs:

- Refractive Surgery
- Oculoplasty, Orbit, and Tear Ducts



“

Boost your career path with holistic teaching, allowing you to advance both theoretically and practically”

07

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.

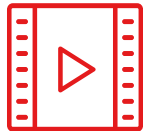
The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

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

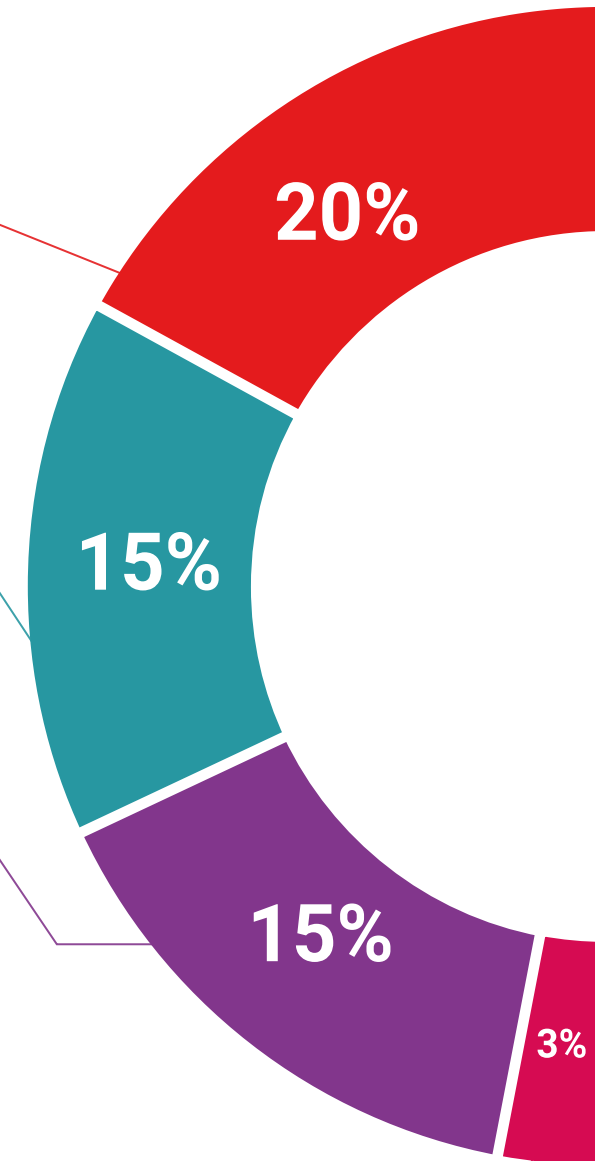
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

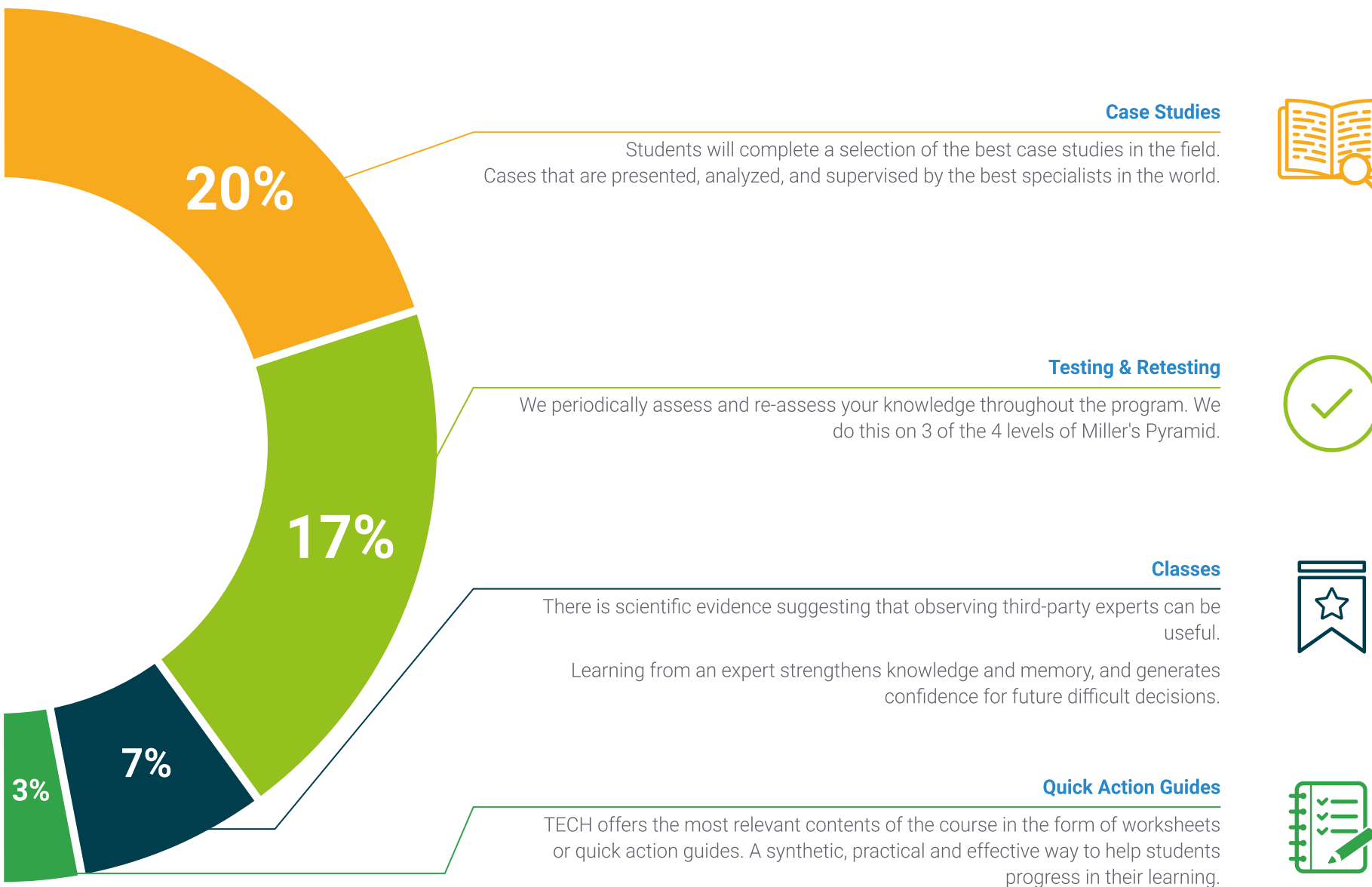
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

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





08

Teaching Staff

In its firm commitment to offering the most comprehensive and up-to-date university degrees in the academic landscape, TECH carries out a rigorous process to select its teaching faculty. Thanks to this effort, this Hybrid Master's Program features the participation of true leaders in Pediatric Ophthalmology. These specialists have developed a wealth of didactic content that stands out both for its high quality and for its alignment with current labor market demands. Undoubtedly, this is an immersive experience that will allow graduates to optimize their daily clinical practice.





“

You will be supported by a teaching staff made up of true references in Pediatric Ophthalmology”

Management



Dr. Sánchez Monroy, Jorge

- ♦ Co-Head of Pediatric Ophthalmology, Quirónsalud Hospital, Zaragoza
- ♦ Specialist in Ophthalmology, Miguel Servet University Hospital, Zaragoza
- ♦ Master's Degree in Clinical Ophthalmology, Camilo José Cela University
- ♦ Degree in Medicine from the University of Zaragoza
- ♦ Expert in Pediatric Neuro-Ophthalmology and Strabismus
- ♦ Expert in Ophthalmology and Vision Sciences

Teachers

Dr. Romero Sanz, María

- ♦ Co-Head of Pediatric Ophthalmology, Quirónsalud Hospital, Zaragoza
- ♦ Specialist in Ophthalmology, Miguel Servet University Hospital, Zaragoza
- ♦ Master's Degree in Clinical Ophthalmology, CEU Cardenal Herrera University
- ♦ Master's Degree in Clinical Medicine at the Camilo José Cela University
- ♦ Degree in Medicine and Surgery, Faculty of Medicine, University of Zaragoza
- ♦ Expert in Ophthalmic Surgery, CEU Cardenal Herrera University
- ♦ Expert in Ocular Pathologies and Treatments, CEU Cardenal Herrera University
- ♦ Expert in Uveitis and Retina, CEU Cardenal Herrera University

Dr. Pueyo Royo, Victoria

- ♦ Specialist in Pediatric Ophthalmology, Miguel Servet University Hospital, Zaragoza
- ♦ Member of the Maternal-Child and Development Health Research Network
- ♦ Lecturer, Degree in Optics and Optometry, University of Zaragoza
- ♦ Degree in Pediatric Ophthalmology

Dr. González, Inmaculada

- ♦ Specialist in Pediatric Ophthalmology, Miguel Servet University Hospital, Zaragoza
- ♦ Senior Specialist in Ophthalmology
- ♦ Member of the Spanish Society of Ophthalmology
- ♦ Member of the Spanish Society of Strabismus
- ♦ Lecturer, Master's in Ophthalmology, CEU Cardenal Herrera University
- ♦ Degree in Medicine and Surgery, University of Zaragoza

Dr. Prieto Calvo, Esther

- ♦ Specialist in Pediatric Ophthalmology, Miguel Servet University Hospital, Zaragoza
- ♦ Researcher, University of Zaragoza Innovation in Teaching Project
- ♦ Researcher, Thematic Network for Cooperative Health Research
- ♦ Specialist in Ophthalmology
- ♦ PhD from the University of Zaragoza
- ♦ Bachelor's Degree in Medicine
- ♦ Member of the Spanish Society of Pediatric Ophthalmology

Dr. Narváez Palazón, Carlos

- ♦ Consultant in Pediatric Ophthalmology
- ♦ Specialist in Ophthalmology in San Carlos Clinical Hospital
- ♦ PhD in Ophthalmology
- ♦ Master's Degree in Clinical Case Integration and Resolution, University of Alcalá
- ♦ Master's Degree in Clinical Management, Medical and Healthcare Leadership, CEU San Pablo University

Dr. Noval Martin, Susana

- ♦ Head of the Pediatric Ophthalmology Service at La Paz Hospital
- ♦ Doctorate Award of the López Sánchez Foundation of the Royal Academy of Medicine
- ♦ PhD in Medicine from the University of Alcalá de Henares
- ♦ Master's Degree in Neuro-immunology from the Autonomous University of Barcelona
- ♦ Degree in Medicine from the Autonomous University Madrid

Dr. D'anna Mardero, Oriana

- ♦ Consultant, Pediatric Retina Unit, La Paz University Hospital, Madrid
- ♦ Area Specialist, Public Health System Hospitals
- ♦ PhD in Ophthalmology
- ♦ Degree in Medicine and Surgery, UCLA

Dr. Pinilla, Juan

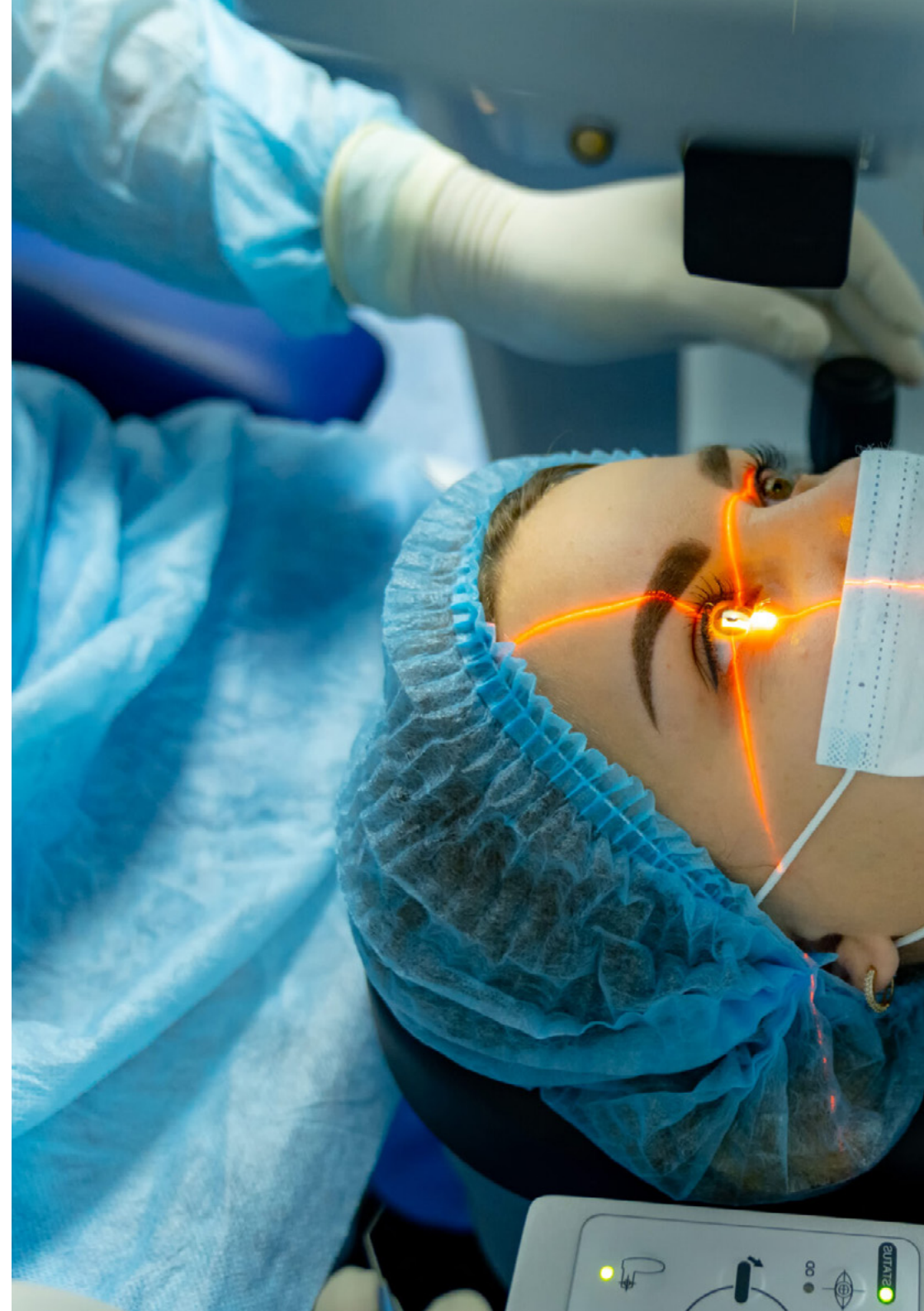
- ♦ Consultant, Pediatric Ophthalmology Unit, Miguel Servet University Hospital
- ♦ Specialist in Pediatric Ophthalmology, Miguel Servet University Hospital, Zaragoza
- ♦ PhD in Medicine and Surgery, University of Zaragoza
- ♦ Master's Degree in Medical Research Initiation
- ♦ Bachelor's Degree in Medicine, University of Zaragoza

Dr. Sanz Pozo, Claudia

- Consultant, Miguel Servet University Hospital, Zaragoza
- Consultant in Ophthalmology, Quirónsalud Hospital, Zaragoza
- Specialist in Ophthalmology, Quirónsalud Hospital, Zaragoza
- Master's Degree in Clinical Ophthalmology, CEU Cardenal Herrera University
- Bachelor's Degree in Medicine and Surgery, Faculty of Medicine, University of Zaragoza
- Expert in Retina and Uveitis, CEU Cardenal Herrera University
- Expert in Ophthalmic Surgery, CEU Cardenal Herrera University
- Expert in Glaucoma and Pediatric Ocular Pathology, CEU Cardenal Herrera University
- Expert in Ocular Pathologies and Treatments, CEU Cardenal Herrera University

Dr. Arias Del Peso, Borja

- Assistant Physician in Ophthalmology
- Clinical Researcher
- PhD in Ophthalmology
- Master's Degree in Imaging-Based Diagnosis of Retinal Pathology
- Master's Degree in Medical Research Initiation
- Degree in Medicine





Dr. Munuera Rufas, Inés

- ♦ Assistant Physician in Ophthalmology
- ♦ Researcher, FIS Project, Aragón Health Research Institute (ISSA)
- ♦ PhD in Ophthalmology
- ♦ Master's Degree in Clinical Medicine from the Camilo José Cela University
- ♦ Master's Degree in Ophthalmology Medicine from Cardenal Herrera University
- ♦ Graduate in Medicine
- ♦ University Expert in Ophthalmic Surgery, Glaucoma and Pediatric Ocular Pathology, Ocular Pathologies and Treatments, and Uveitis and Retina, CEU Cardenal Herrera University
- ♦ Member, Miguel Servet Ophthalmology Research and Innovation Group (GIMSO)

“

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

09 Certificate

The Hybrid Master's Degree in Pediatric Ophthalmology guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Hybrid 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 diploma for the **Hybrid Master's Degree in Pediatric Ophthalmology** endorsed by TECH Global University, the world's largest online university.

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



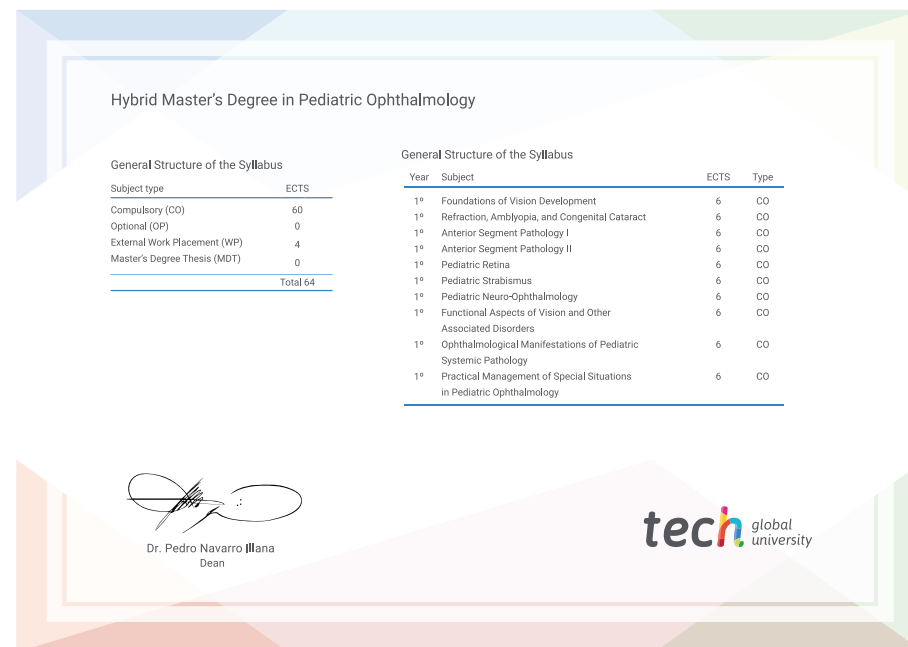
This **TECH Global University** private qualification, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Hybrid Master's Degree in Pediatric Ophthalmology**

Modality: **online**

Duration: **12 months**

Accreditation: **60 + 4 ECTS**





Hybrid Master's Degree Pediatric Ophthalmology

Modality: Hybrid (Online + Internship)

Duration: 12 months

Certificate: TECH Global University

Credits: 60 + 4 ECTS

Hybrid Master's Degree Pediatric Ophthalmology

