

# Postgraduate Certificate

## Ophthalmologic Manifestations of Systemic Pathologies



## Postgraduate Certificate

### Ophthalmologic Manifestations of Systemic Pathologies

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-certificate/ophthalmologic-manifestations-systemic-pathologies](http://www.techtute.com/us/medicine/postgraduate-certificate/ophthalmologic-manifestations-systemic-pathologies)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

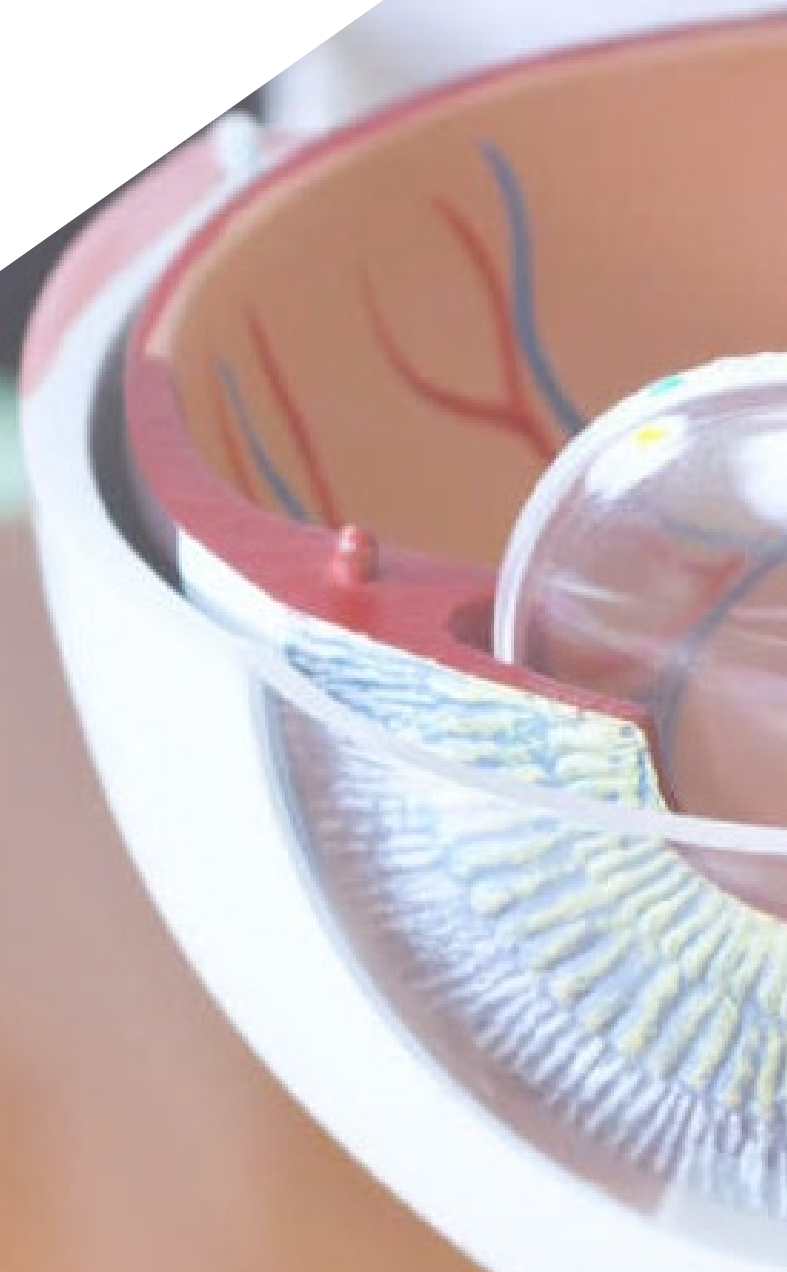
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*p. 28*

# 01

# Introduction

The systemic diseases that manifest themselves through the visual system are many, being the eye directly who suffers the consequences, but at the same time is the one who helps to diagnose such pathology in advance. In this way it will be possible to locate in advance that the organism has an anomaly, reaching to treat it in time or even to prevent it. That is why this academic program has been developed with the purpose of providing the professional in Pediatric Ophthalmology with important knowledge related to the recognition of systemic pathologies, such as albinism and Marfan syndrome, with ophthalmologic manifestations. All this, in a 100% online pedagogical format that provides flexibility and convenience.





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*This Postgraduate Certificate has been developed in order to provide you with the most advanced content on Leukemia in children: diagnosis and classification”*

The eye, besides being the organ that allows us to see, is also a reflection of the health of each person. Systemic alterations are manifested in the sight before, during or after the condition. Therefore, knowing the state of the ocular system will allow the specialist to carry out the appropriate treatment and define a prognosis through the eyeball, ruling out the options of diseases that the patient could suffer from.

Accordingly, research in this area of knowledge has continued to develop, answering a number of questions, confirming that professionals in Ophthalmologic Manifestations must remain at the forefront in this medical field. Therefore, this Postgraduate Certificate will provide the professional with different updates in relation to neurometabolic disorders with ophthalmologic manifestations.

The specialist will enhance their competencies in detailed areas related to evaluating the ophthalmologic consequences of intrauterine disorders and perinatal infections and identifying phacomatosis with ophthalmic and systemic manifestations. In this way, this is a program that integrates an experienced teaching team together with a multimedia content of the highest quality that offers dynamism and comfort with the online modality.

For this reason, TECH is comfort and excellence, since this qualification contains the most complete update and of the highest standards, being a university program of great flexibility as it only requires a device with Internet connection to access the virtual platform without difficulties from the comfort of the place where you are.

This **Postgraduate Certificate in Ophthalmologic Manifestations of Systemic Pathologies** 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



*With TECH you will be able to keep up to date with the latest updates in treatments and therapies in pediatric leukemia and neuroblastoma”*

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*TECH has a teaching team with extensive experience and at the same time, integrates multimedia material that will help you in your academic process”*

*In this program you will strengthen skills that will allow you to recognize systemic pathologies, such as albinism and Marfan syndrome.*

*For this qualification you will only need an electronic device with Internet connection.*

The program's teaching staff includes professionals from the field who contribute their work experience to this educational 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 is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.





# 02

# Objectives

This Postgraduate Certificate in Ophthalmologic Manifestations of Systemic Pathologies has been developed primarily to provide the professional with the most recent innovations in the field of Pediatric Ophthalmology. Therefore, TECH offers a variety of innovative academic resources, successfully guaranteeing the development and completion of this program. Upon completion of this program, students will have strengthened their skills in the evaluation and diagnosis of neurometabolic disorders.





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*TECH provides you with multiple audiovisual tools that will help you to complete your qualification”*



## 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 phacomatosis with ophthalmic and systemic manifestations
- Recognize neurofibromatosis and its ophthalmologic implications
- Evaluate ophthalmologic manifestations of CNS tumors in children
- Identify ocular manifestations of leukemia and neuroblastoma in children
- Integrate the ophthalmologic approach in the multidisciplinary management of these disorders
- Understand mitochondrial pathology and its impact on visual function
- Identify neurometabolic disorders with ophthalmologic manifestations
- Assess the ophthalmologic consequences of intrauterine disorders and perinatal infections
- Recognize systemic pathologies, such as albinism and Marfan syndrome, with ophthalmologic manifestations
- Identify signs of child abuse and their relationship to eye injuries



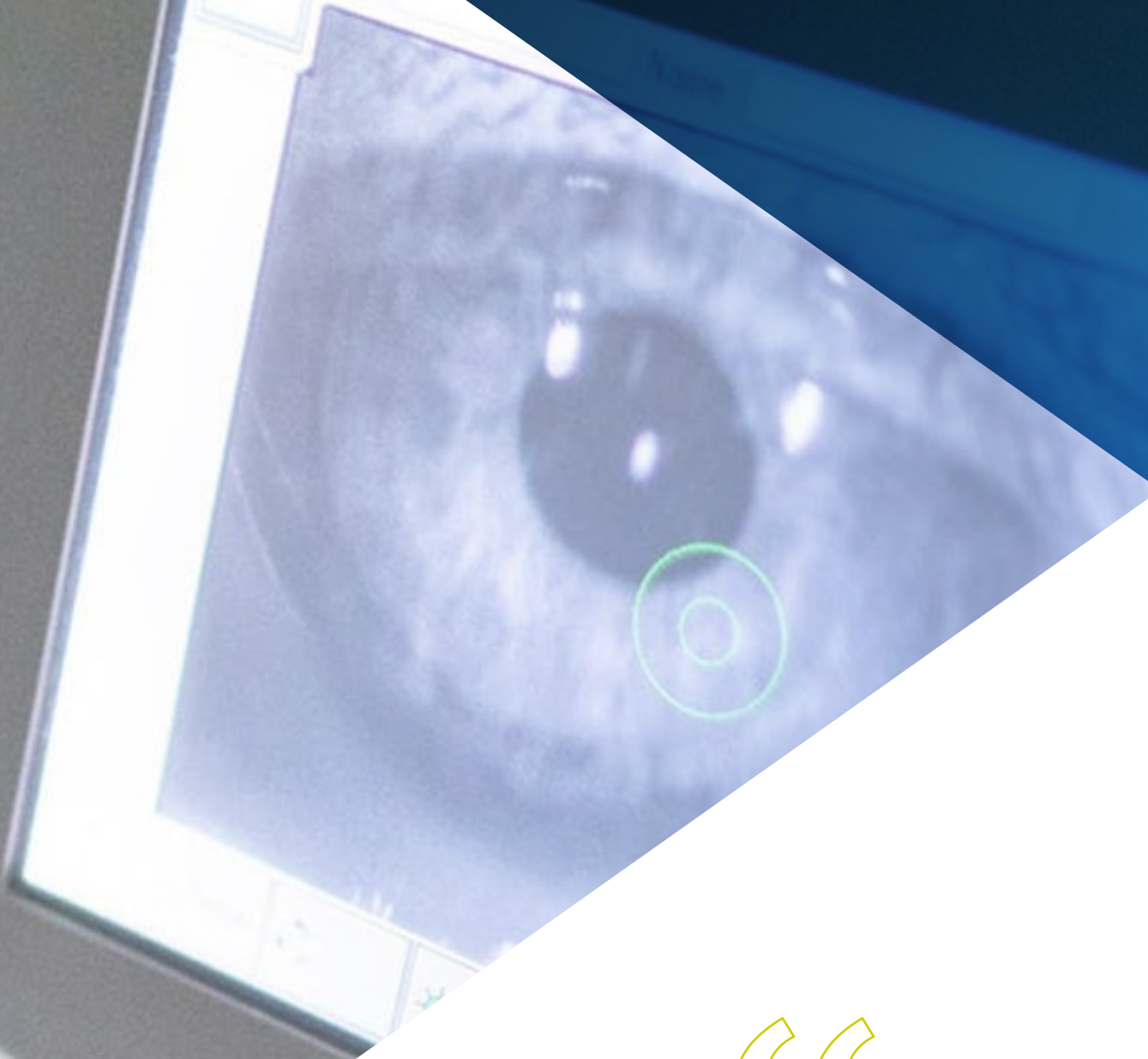
*At TECH you will develop actions that will help you understand mitochondrial pathology and its impact on visual function"*



# 03

# Course Management

TECH offers elite teaching so that graduates of its programs can successfully carry out the development of each of their qualifications with the support of didactic tools that bring dynamism to learning. Likewise, students will have access to content developed by a teaching staff highly specialized in Ophthalmology and Vision Sciences, Ocular Pathologies and treatment and Ophthalmic Surgery. On the other hand, their wide experience and deep knowledge will allow the graduate to solve any difficulties that may arise during the course of the program.



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*Elite education is a TECH premise, which is why it integrates a highly qualified teaching staff in neuroblastoma in infancy”*



## 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 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. González, Inmaculada

- ♦ Specialist in the Pediatric Ophthalmology Miguel Servet University Hospital in Zaragoza
- ♦ Area Specialist in Psychiatry
- ♦ Member of the Spanish Society of Ophthalmology
- ♦ Member of the Spanish Society of Strabology
- ♦ Professor for the Ophthalmology Degree in Orthodontics, CEU Cardenal Herrera University
- ♦ Bachelor in Medicine and Surgery from the University of Zaragoza



**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

**Dr. Pinilla, Juan**

- ♦ Attending Physician of Pediatric Ophthalmology Unit, Miguel Servet University Hospital
- ♦ Specialist in the Pediatric Ophthalmology Miguel Servet University Hospital in Zaragoza
- ♦ Doctorate in Medicine and Surgery, University of Zaragoza
- ♦ Professional Master's in Initiation to Research in Medicine
- ♦ Degree in Medicine from the University of Zaragoza

**Dr. Sanz Pozo, Claudia**

- ♦ Ophthalmology Attachments at Quirónsalud Hospital in Zaragoza
- ♦ Specialist in Ophthalmology at the at Quironsalud Hospital in Zaragoza
- ♦ Master's Degree in Clinical Ophthalmology at Cardenal Herrera University
- ♦ Degree in Medicine and Surgery from the Faculty of Medicine of the Zaragoza University
- ♦ Expert in Retina and the Uveitis Cardenal Herrera University
- ♦ Expert in Ophthalmologic Surgery at Universidad Cardenal Herrera
- ♦ Expert in Glaucoma and Pediatric Ocular Pathology at Cardenal Herrera University
- ♦ Expert in Ocular Diseases and Treatment Cardenal Herrera University

# 04

## Structure and Content

This program has been developed and focused according to the most recent research and studies in the field of Pediatric Ophthalmology, integrating a curriculum that provides a rich material on Ophthalmologic Manifestations of Systemic Pathologies. Therefore, this Postgraduate Certificate is oriented to offer the most innovative content on syndromes and disorders related to phakomatosis. All this, through a series of didactic tools that offer dynamism, facilitating learning in this university program.



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*This course is focused on providing students with the latest material on diagnosis and management of intrauterine disorders and perinatal infection”*



## Module 1. Ophthalmologic Manifestations of Systemic Pathologies

- 1.1. Phakomatosis
  - 1.1.1. Phakomatosis: definition and classification
  - 1.1.2. Syndromes and disorders related to Phakomatosis
  - 1.1.3. Evaluation and diagnosis in children with Phakomatosis
  - 1.1.4. Treatments and therapeutic approach in Phakomatosis
- 1.2. Neurofibromatosis
  - 1.2.1. Neurofibromatosis type 1 (NF1): characteristics and diagnosis
  - 1.2.2. Neurofibromatosis type 2 (NF2): evaluation and management
  - 1.2.3. Other forms of neurofibromatosis
  - 1.2.4. Clinical cases and examples of neurofibromatosis in children
- 1.3. Pediatric tumor pathology I. Snc
  - 1.3.1. Brain tumors in children: types and classification
  - 1.3.2. Diagnosis and evaluation of tumors of the central nervous system (CNS)
  - 1.3.3. Treatments and surgery in pediatric brain tumors
  - 1.3.4. Follow-up and prognosis in pediatric CNS tumors
- 1.4. Pediatric tumor pathology 2: leukemia, neuroblastoma
  - 1.4.1. Leukemia in children: diagnosis and classification
  - 1.4.2. Neuroblastoma in childhood: etiology and characteristics
  - 1.4.3. Treatments and therapies in pediatric leukemia and neuroblastoma
  - 1.4.4. Outcomes and prognosis in pediatric leukemia and neuroblastoma
- 1.5. Mitochondrial pathology
  - 1.5.1. Mitochondrial disorders in childhood
  - 1.5.2. Diagnosis and evaluation of mitochondrial pathology
  - 1.5.3. Treatments and therapeutic approach in mitochondrial disorders
  - 1.5.4. Research and advances in mitochondrial pathology
- 1.6. Neurometabolic disorders
  - 1.6.1. Neurometabolic disorders in children: classification
  - 1.6.2. Evaluation and diagnosis of neurometabolic disorders
  - 1.6.3. Therapies and treatments in pediatric neurometabolic disorders
  - 1.6.4. Outcomes and follow-up in neurometabolic disorders





- 1.7. Intrauterine disorders and perinatal infection
  - 1.7.1. Intrauterine disorders of ocular development
  - 1.7.2. Perinatal infection and its impact on vision
  - 1.7.3. Diagnosis and management of intrauterine disorders and perinatal infection
  - 1.7.4. Complications and prognosis in cases of intrauterine disorders and perinatal infection
- 1.8. Other systemic pathologies: albinism, Marfan syndrome, etc
  - 1.8.1. Albinism in children: characteristics and diagnosis
  - 1.8.2. Marfan's syndrome and other systemic disorders
  - 1.8.3. Ophthalmologic evaluation and care in cases of systemic pathologies
  - 1.8.4. Multidisciplinary approach in patients with systemic pathologies
- 1.9. Pediatric ocular trauma
  - 1.9.1. Types and causes of ocular trauma in children
  - 1.9.2. Evaluation and diagnosis of pediatric ocular trauma
  - 1.9.3. Treatments and management of ocular trauma
  - 1.9.4. Outcomes and follow-up in pediatric ocular trauma cases
- 1.10. Battered child syndrome
  - 1.10.1. Identification and assessment of the battered child syndrome
  - 1.10.2. Intervention and support in child maltreatment cases
  - 1.10.3. Legal and ethical aspects of maltreated child syndrome
  - 1.10.4. Clinical cases and experiences in battered child syndrome



*At TECH you will enjoy the 100% online learning modality, being able to organize your daily tasks and access the virtual platform at any time"*

# 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. Gervas, 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 Ophthalmologic Manifestations of Systemic Pathologies guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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

This program will allow you to obtain your **Postgraduate Certificate in Ophthalmologic Manifestations of Systemic Pathologies** 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** title 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: **Postgraduate Certificate in Ophthalmologic Manifestations of Systemic Pathologies**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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

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



## Postgraduate Certificate

### Ophthalmologic Manifestations of Systemic Pathologies

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