

Postgraduate Certificate  
Supranuclear Ocular  
Motility Disorders. Nystagmus





## Postgraduate Certificate Supranuclear Ocular Motility Disorders. Nystagmus

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

Website: [www.techtute.com/us/medicine/postgraduate-certificate/supranuclear-ocular-motility-disorders-nystagmus](http://www.techtute.com/us/medicine/postgraduate-certificate/supranuclear-ocular-motility-disorders-nystagmus)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 18*

05

Methodology

---

*p. 22*

06

Certificate

---

*p. 28*

# 01

# Introduction

Nystagmus is an involuntary oscillation that occurs in one or both eyes and can occur both horizontally and vertically. Learning about this disorder involves studying the different causes that originate it, from idiopathic to neurological, to offer the most appropriate responses to each situation and patient. This program develops all the aspects of learning that the professional needs to exercise as an expert in this subject. With quality and flexibility, so that the student achieves their goals of study with total comfort.



“

*Include in your capacity the extensive, up-to-date and innovative knowledge of an expert in this field"*

Nystagmus is a condition that manifests itself in patients in various ways. Depending on its type of movement it can belong to different classifications: pendular, when the two phases of the movement are symmetrical in their speed; jerk, when the nystagmus to one side is faster than the opposite side.

But nystagmus may vary in other features in its presentation. Knowing the possibilities in which it manifests itself is an important condition for an adequate approach in the ophthalmological consultation.

In this Postgraduate Certificate the student will learn to recognize the characteristics that define a nystagmus: direction, amplitude, frequency and intensity. In this way, you will be able to correctly diagnose and treat this disorder, which requires an up-to-date and precise anatomical and medical knowledge that helps the professional to give the right answers to each situation.

This Postgraduate Certificate has established a learning process that allows to combine the study and progress of the program, with other occupations offering an optimal system of specialization.

This **Postgraduate Certificate in Supranuclear Ocular Motility Disorders. Nystagmus** contains the most complete and up-to-date educational program on the market. The most important features of the program include:

- Practical cases presented by experts in medicine
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the self-assessment process can be carried out to improve learning
- 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



*All the features of nystagmus developed theoretically and practically in a Postgraduate Certificate of exceptional quality"*

“

*Increase your skills in this field by studying at TECH and start to see how your job opportunities multiply”*

The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive training programmed to train 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 student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*With a new approach to work, this Postgraduate Certificate is configured as a way of rapid and effective professional growth.*

*Study comfortably at TECH based on the most reputable teaching methodology of the online academic landscape.*



# 02 Objectives

The primary objective of this Postgraduate Certificate is to offer the professional the necessary tools to detect and treat Nystagmus. With a goal of intensive learning and high impact, the students will be able to start exercising their profession in this area safely relying on the theoretical and practical learning of this Postgraduate Certificate, offering the most suitable and innovative support to the ophthalmological pathologies of its patients.







“

*Give a boost to your competitiveness with this high-intensity Postgraduate Certificate and get in front of the labor market"*



## General Objectives

---

- Delve into the anatomical and physiological knowledge necessary to understand the pathologies that will be developed in the following modules
- Provide the necessary knowledge for the Neuro-Ophthalmologist on the primary alterations of ocular motility and its therapeutic options
- Make known the Neuro-Ophthalmological pathologies that may occur in pediatric patients, their diagnostic approach and treatment



*A complete program of maximum interest that will help you achieve all your professional and personal goals"*





## Specific Objectives

---

- Learn oculomotor alterations originating in the brain stem from an anatomical and pathophysiological point of view
- Make known the cerebellar and vestibular origin alterations that produce Neuro-Ophthalmological alterations
- Develop the ophthalmological repercussions of certain complex neurological diseases such as phacomatosis, Parkinson's disease, etc.
- Train the student to diagnose and classify the different types of nystagmus and other oscillatory eye movements

03

# Course Management

This Postgraduate Certificate offers students the experience of a group of professionals with respect to both teaching and ophthalmology with years of experience and high prestige in the profession. Through their competence and their direct vision of the profession, they will offer students quality support that will promote their understanding of the contents and their conversion into real competences.



A close-up photograph of a person's eye, showing the iris and pupil. The eye is looking slightly to the right. The background is a dark blue gradient. The image is partially obscured by a white diagonal shape that contains the quote.

“

*Learning from the best is the best  
guarantee for success in any  
learning program"*

## International Guest Director

Doctor Dean Cestari is widely recognized for his dedication to the treatment of **Neuro-Ophthalmological Disorders, Strabismus and Diplopia**, which has made a significant difference in the lives of numerous patients. Therefore, I am one of only a few ophthalmologists around the world certified by the council in **Neurology and Ophthalmology**, which underlines his deep knowledge in both disciplines.

With extensive experience as a **Neuro-Ophthalmologist and Strabismus Surgeon**, Cestaria has excelled in leading healthcare settings such as **Mass Eye & Ear**. Within this same institution, he also serves as Codirector of the **Center for Thyroid Eye Disease and Orbital Surgery** where he leads a team of experts committed to medical excellence.

In addition to his outstanding clinical department, he is a pioneer in the investigation of **Optical Nerve Diseases** and has dedicated a large part of his work to **Ischemic Optical Neuropathy**. In this sense, his tireless search for solutions has led to the evaluation of innovative neuroprotective agents to preserve and restore vision affected by **Vascular Occlusion**. Today, Doctor Cestari has developed as an outstanding **Principal Investigator (PI) and Co-PI** in multiple research projects and clinical trials. To this must be added the authorship of the first **Case Book of Cases Teaching Strabismus Surgery Using the Adjustable Suture Technique**.

Moreover, Dean Cestari has played crucial roles in committees of renowned ophthalmological organizations. In addition, he combines his work as a clinician and researcher supervising and guiding future medical professionals, as **Chairman of the Clinical Fellowship Committee** and **Director of the Neuro-Ophthalmology Fellowship Program** at **Mass Eye & Ear**. In 2012, he was honored with an **Achievement Award**, given by the **American Academy of Ophthalmology**, a recognition of his outstanding contribution to **Ophthalmology and scientific education**.



## Dr. Cestari, Dean

---

- Adult Neuro-Ophthalmologist and Strabismus Surgeon at Mass Eye & Ear
- Co-Director of the *Center for Thyroid Eye Disease and Orbital Surgery* at Mass Eye & Ear
- Associate Professor of Ophthalmology at Mass Eye & Ear.
- Co-Founder of *Total Direct Care (Atención Directa Total)*
- President of the Mass Eye & Ear Clinical Care Committee
- Director of the Mass Eye & Ear in Neuro-Ophthalmology Care Programming
- **Harvard Medical School Catalyst Grant**
- *Achievement Award (2012) from the American Academy of Ophthalmology*
- *Miembro de la Digital Media Committee of the American Academy of Ophthalmology y el Curriculum Development Committee of the North American*

“

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

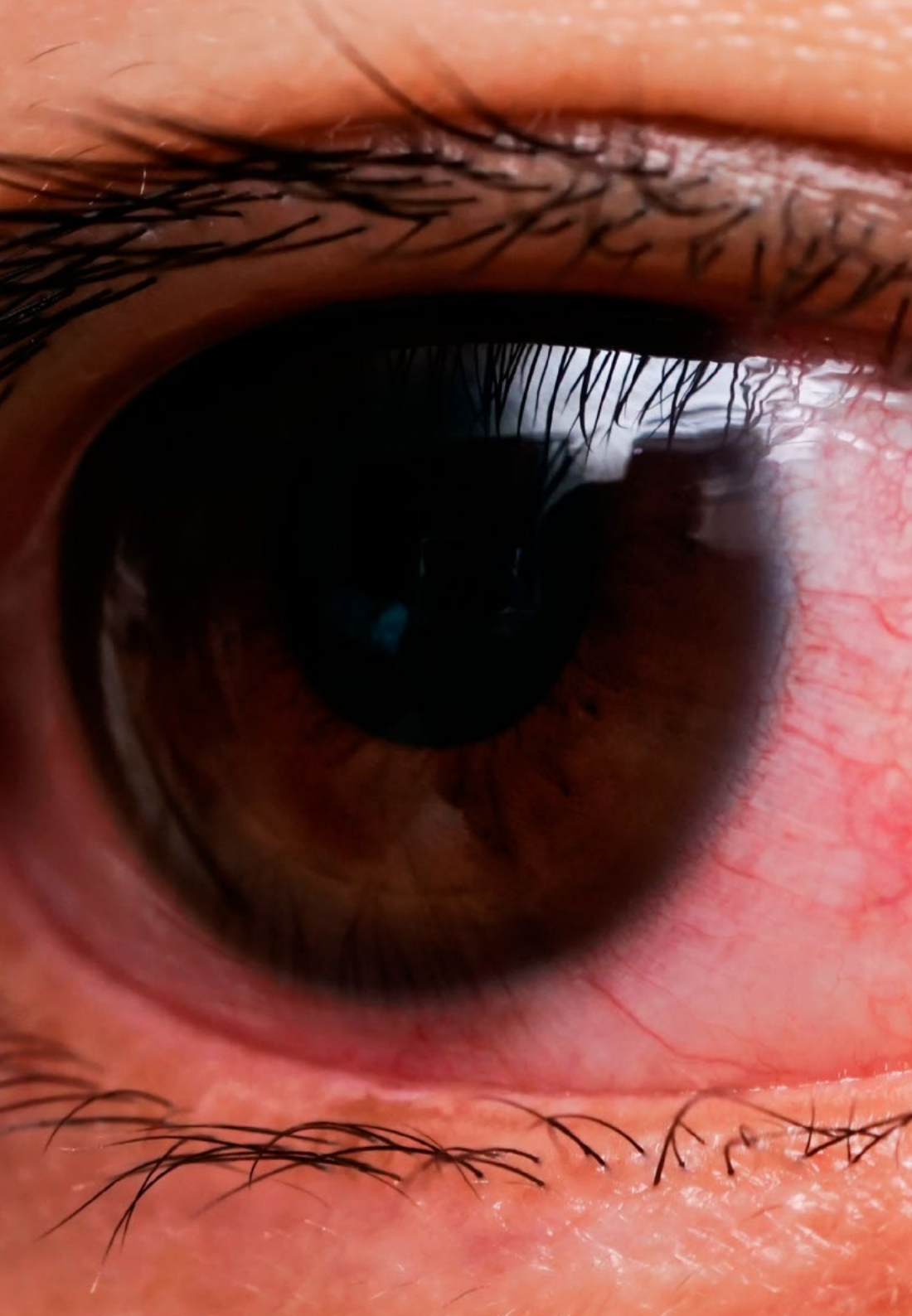
## Management



### Dr. Luque Valentin-Fernández, María Luisa

- ♦ Head of the Ophthalmology Department of the El Escorial University Hospital, Madrid (HUEE).
- ♦ Professor of Ophthalmology, Francisco de Vitoria University, Madrid.
- ♦ Degree in Medicine and Surgery from the Autonomous University of Madrid.
- ♦ Specialist via MIR in Ophthalmology at the Gregorio Marañón University Hospital, Madrid.
- ♦ PhD in Medicine and Surgery from the Complutense University of Madrid
- ♦ Master's Degree in Health Care Quality from the Rey Juan Carlos University of Madrid.
- ♦ Postgraduate Diploma in Design and Statistics in Health Sciences, Autonomous University of Barcelona.
- ♦ President of the Continuing Education Commission of the HUEE hospital.
- ♦ Head of Hospital Continuing Education HUEE
- ♦ HUEE Quality Coordinator





## Professors

### Dr. Cabrejas Martínez, Laura

- ♦ Ophthalmology Attending Physician. Section of pediatric ophthalmology, strabismus and neuro-ophthalmology. Jiménez Díaz Foundation Madrid
- ♦ Ophthalmology Attending Physician. Section of pediatric ophthalmology, strabismus and neuro-ophthalmology. Ruber Juan Bravo Hospital. Madrid
- ♦ Associate Professor of Ophthalmology, Medical Degree. European University of Madrid
- ♦ Doctor of Medicine and Surgery from the University of Alcalá.
- ♦ Degree in Medicine and Surgery. University of Salamanca.
- ♦ Master's Degree in Clinical Ophthalmology. CEU. Cardenal Herrera University
- ♦ University expert in ocular pathologies and treatment, glaucoma and pediatric ocular pathology, ophthalmologic surgery, uveitis and retina. CEU Cardenal Herrera University
- ♦ Specialist via MIR in Ophthalmology at the Ramón y Cajal University Hospital. Madrid

### Dr. González Manrique, María del Mar

- ♦ Head of the Ophthalmology Department of the University Hospital of Móstoles
- ♦ Attending Physician, Móstoles Hospital, Madrid, Spain
- ♦ Attending Physician, La Princesa University Hospital, Madrid, Spain.
- ♦ Degree in Medicine and Surgery. Autonomous University of Madrid
- ♦ Medical Specialist in Ophthalmology. Ramón y Cajal University Hospital, Madrid
- ♦ Research Sufficiency. University of Alcalá
- ♦ Master's Degree in Medical and Clinical Management UNED.

# 04

# Structure and Content

The contents of this program represent a complete, intensive and eminently practical education on Neuro-Ophthalmological disorders and pathologies, specifically the advances and updates referred to Nystagmus. All the contents are accessible in multimedia format, with videos, theoretical lessons and working tools developed to facilitate the learning process of the physicians and help them to reach the maximum competence in this area.



“

*A high quality, complete and interesting syllabus that will break down all the aspects that this intervention requires"*

## Module 1. Supranuclear Ocular Motility Disorders. Nystagmus

- 1.1. Anatomical Relationships. Paramedian Pontine Reticular Formation (PPRF) and Medial Longitudinal Fasciculus (MLF)
  - 1.1.1. Anatomical Constituents of the Supranuclear Eye Movement
  - 1.1.2. Functional Anatomy of Saccadic and Tracking Movements
  - 1.1.3. Functional Anatomy of Horizontal Versions
  - 1.1.4. Functional Anatomy of Vertical Versions
  - 1.1.5. Functional Anatomy of Convergence/Divergence
  - 1.1.6. Non-Optic or Vestibular Reflexes
- 1.2. Ophthalmological Manifestations in Pathology of the Trunk
  - 1.2.1. Horizontal Gaze Pathology
  - 1.2.2. Vertical Gaze Pathology
  - 1.2.3. Pathology of Convergence and Divergence
- 1.3. Ophthalmological Manifestations in Pathology of the Cerebellum
  - 1.3.1. Localization of Lesions in the Cerebellum According to Ophthalmological Manifestations
  - 1.3.2. Ophthalmologic Manifestations in Cerebellar Vascular Pathology
  - 1.3.3. Ophthalmological Manifestations in Cerebellar Developmental Pathology
- 1.4. Ophthalmological Manifestations in Pathology of the Vestibular System
  - 1.4.1. Ophthalmological Manifestations of Central Oculo-Vestibular Dysfunction
  - 1.4.2. Ophthalmological Manifestations of Peripheral Oculo-Vestibular Dysfunction
  - 1.4.3. Oblique Deflection (Skew)
- 1.5. Ophthalmological Manifestations in Degenerative Neurological and Other Diseases
  - 1.5.1. Parkinson's Disease
  - 1.5.2. Huntington's Disease
  - 1.5.3. Epilepsy
  - 1.5.4. Coma.
- 1.6. Phacomatosis
  - 1.6.1. Neurofibromatosis
  - 1.6.2. Tuberous Sclerosis

- 1.6.3. Von-Hippel-Lindau Disease
- 1.7. Nystagmus
  - 1.7.1. Definition and Pathophysiology
  - 1.7.2. Classification
  - 1.7.3. Examination and Recording Methods
  - 1.7.4. Physiological Nystagmus
- 1.8. Nystagmus in Adults
  - 1.8.1. Vestibular Nystagmus
  - 1.8.2. Eccentric Gaze Nystagmus
  - 1.8.3. Acquired Pendular Nystagmus
  - 1.8.4. Treatment
- 1.9. Nystagmus in Childhood
  - 1.9.1. Sensory Nystagmus
  - 1.9.2. Idiopathic Motor Nystagmus
  - 1.9.3. Nystagmus due to Fusional Maldevelopment
  - 1.9.4. Other Childhood Nystagmus
  - 1.9.5. Diagnostic Protocol
  - 1.9.6. Treatment
- 1.10. Saccadic Intrusions and Oscillations
  - 1.10.1. Saccadic Intrusions
  - 1.10.2. Saccadic Oscillations
  - 1.10.3. Other Ocular Oscillations



*Study at TECH and become part of this institution's long list of success stories"*



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.



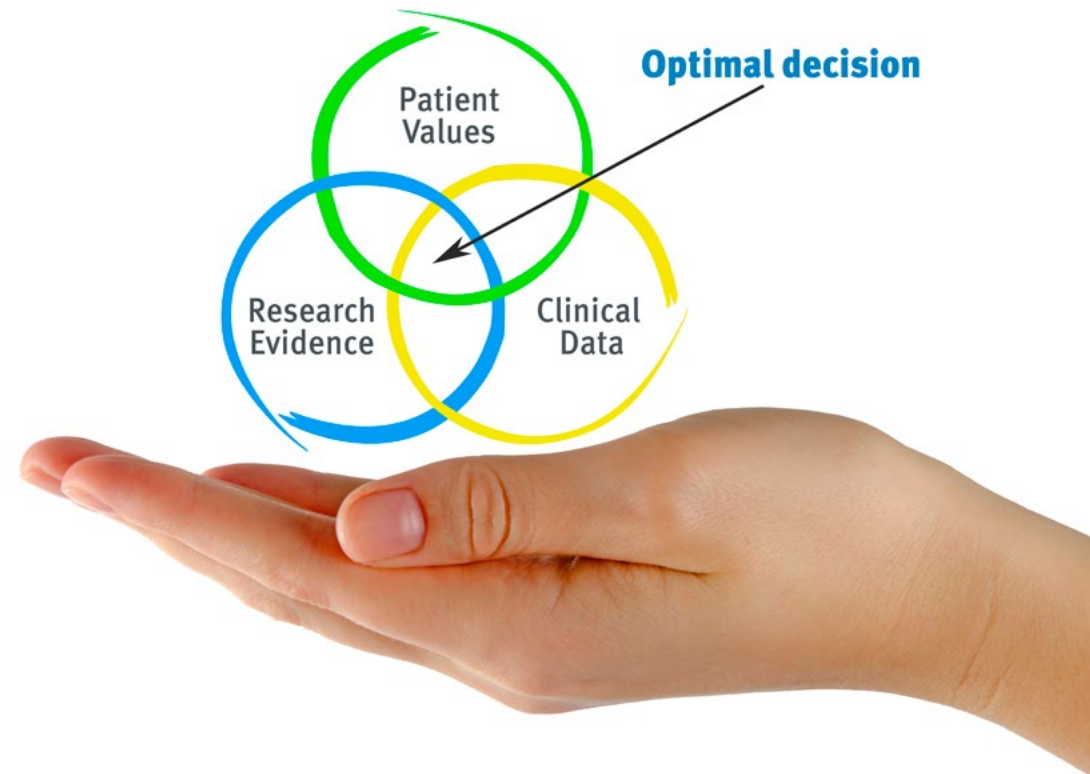
“

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

## At TECH we use the Case Method

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

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



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



“

*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 Supranuclear Ocular Motility Disorders. Nystagmus guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





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

This **Postgraduate Certificate in Supranuclear Ocular Motility Disorders. Nystagmus** contains the most complete and up-to-date scientific program on the market.

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

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

Title: **Postgraduate Certificate in Supranuclear Ocular Motility Disorders. Nystagmus**  
Official N° of Hours: **150 h.**



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



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



## Postgraduate Certificate

Supranuclear Ocular

Motility Disorders.

Nystagmus

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

Postgraduate Certificate  
Supranuclear Ocular  
Motility Disorders. Nystagmus

