

Postgraduate Certificate

Diagnostic Procedures in Corneal Pathology





Postgraduate Certificate Diagnostic Procedures in Corneal Pathology

- » 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/diagnostic-procedures-corneal-pathology

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Certificate

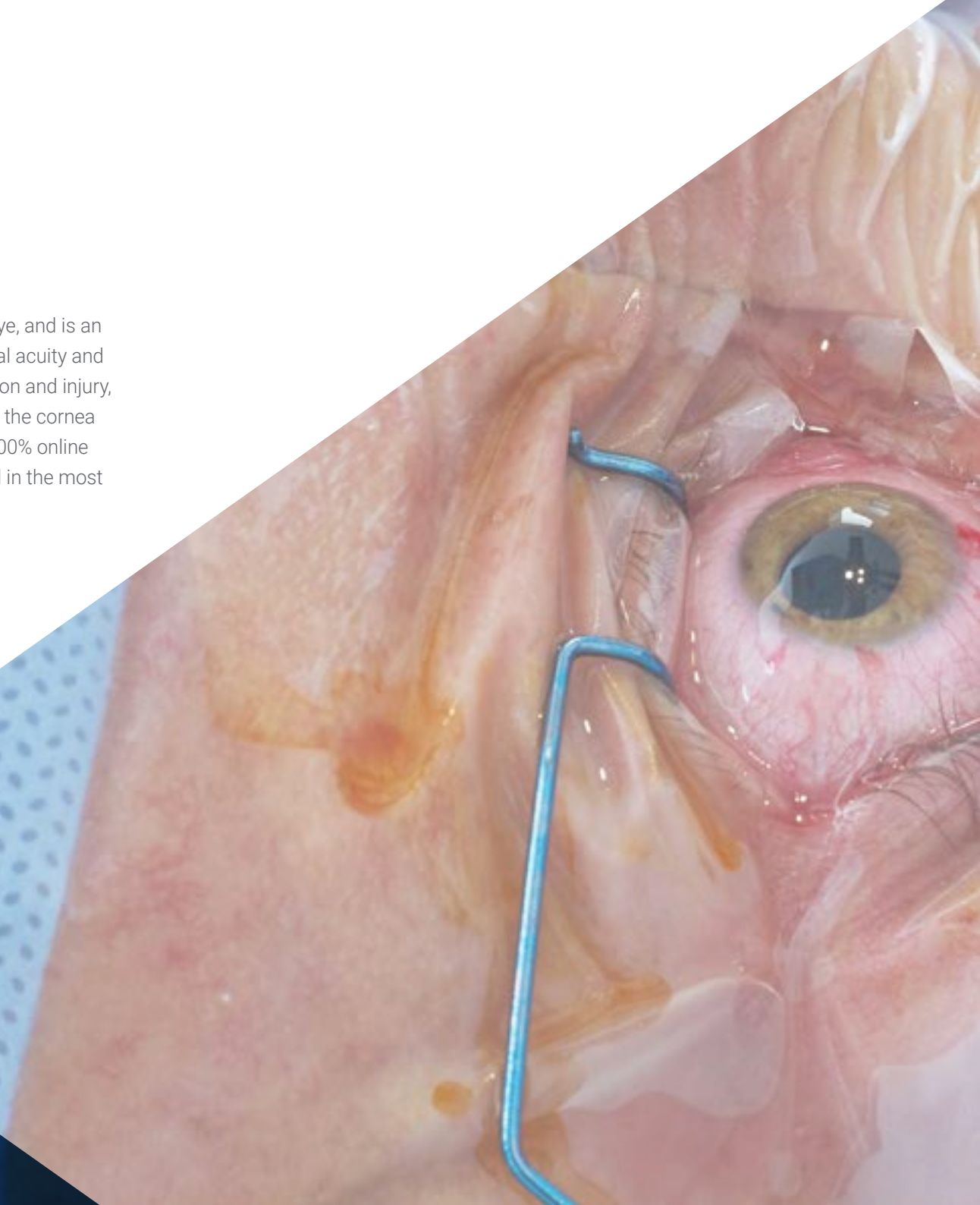
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01

Introduction

Corneal pathology is a very common visual health problem worldwide.

The cornea is the transparent, curved layer that covers the surface of the eye, and is an essential part of the eye's optical system. Corneal diseases can affect visual acuity and cause blindness in some cases. In addition, this part is vulnerable to infection and injury, which can cause significant pain and discomfort. Due to the importance of the cornea for vision and the prevalence of corneal diseases, TECH has developed a 100% online academic program, which is crucial for eye care professionals to be trained in the most up-to-date diagnostic procedures.





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*Do you want to stand out in your career?
Learn to diagnose Corneal Pathologies with
this program where you can acquire essential
skills and apply them in medical practice"*

Diagnostic Procedures in Corneal Pathology are fundamental for the proper treatment of ocular adequate treatment of ocular diseases. The cornea is the outermost ocular structure and is exposed to various external agents, which can cause alterations in its morphology, topography, aberrometry, asphericity and biomechanics. For this reason, it is necessary to have professionals trained in this field to achieve an accurate diagnosis and effective treatment.

In this context, TECH has designed an essential program for the development of skills and knowledge in this area. Ophthalmology professionals need to be updated and trained in the new techniques and technologies applied in the diagnosis and treatment of corneal diseases. In addition, the cornea is a crucial structure for vision and its pathology can seriously affect the patient's quality of life, so it is important to have excellent professionals to provide comprehensive care.

During the Postgraduate Certificate, the morphology, topography, aberrometry, asphericity and biomechanics of the cornea will be studied in depth, with a focus on the practical application of this knowledge in refractive surgery. Topics such as the exploration and study of corneal biomechanics, the correlation of topographic and aberrometric parameters with corneal biomechanics, and the practical application of corneal biomechanics will be discussed.

The methodology of the degree will include theoretical and practical classes, analysis of real clinical cases and downloadable materials. In addition, state-of-the-art technologies will be used for the exploration and study of the cornea, allowing students to have a complete and up-to-date learning experience in a 100% online manner.

This **Postgraduate Certificate in Diagnostic Procedures in Corneal Pathology** contains the most complete and updated scientific program in the market. Its most outstanding features are:

- ♦ The development of case studies presented by medical experts focused on Diagnostic Procedures in Corneal Pathology
- ♦ 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



A specialized program in Diagnostic Procedures in Corneal Pathology can be of great value to eye care professionals seeking to enhance their skills and knowledge in this area”

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Do you want to become an expert in corneal pathology diagnosis? This Postgraduate Certificate is for you! With outstanding teachers and a focus on the Relearning method"

This Professional Postgraduate Certificate will enable you to identify and effectively treat the different diseases and disorders that affect the cornea.

Do you want to expand your career horizons? This Professional Postgraduate Certificate will enable you to identify and effectively treat the different diseases and disorders that affect the cornea. and disorders that affect the cornea.

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.

Its 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 an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.



02 Objectives

Throughout the Postgraduate Certificate, students are expected to acquire a thorough understanding of the morphology and functional structure of the cornea, as well as the principles of corneal topography and corneal aberrometry. Students are also expected to understand the importance of corneal biomechanics and its relationship to concepts such as corneal hysteresis and its evaluation in the diagnosis of corneal pathology. Thus, by the end of the program, students will be equipped with the necessary tools to diagnose and treat various corneal conditions effectively and accurately.





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The objective of this academic degree is to train highly skilled professionals in the performance of accurate and effective diagnostic procedures in Corneal Pathology”



General Objectives

- ♦ To delve into the basic principles of optics, as well as refractive defects and their treatment possibilities
- ♦ Describe the corneal morphology and function on which much of Refractive Surgery is applied
- ♦ Go deeper in the operation of an excimer laser and what are the fundamental characteristics of some excimer platforms
- ♦ To investigate the indications and contraindications of Refractive Surgery, as well as the algorithms used for the surgery
- ♦ Obtain an update on the studies to be performed on patients in order to correctly assess the indication for surgery
- ♦ Describe the processes of preparation for Refractive Surgery
- ♦ Delve into the different techniques applied on the cornea for the correction of refractive errors
- ♦ Identify the surgeries that can be performed on the crystalline lens to eliminate the patients' graduation defects
- ♦ Be aware of the different lenses that are used for this surgery without acting on the cornea or lens
- ♦ To deepen the relationship between Glaucoma and Refractive Surgery





Specific Objectives

- ◆ Delve into the morphology and functional structure of the cornea
- ◆ Describe the principles of corneal topography and how it is measured
- ◆ To deepen in Corneal aberrometry and how it is quantified with diagnostic means
- ◆ Relate what Corneal biomechanics is to concepts such as Corneal hysteresis and how it is evaluated

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Learn with this degree how to correctly apply the whole practice of Corneal topography to Refractive Surgery”

03

Course Management

TECH is an educational institution recognized for its academic excellence and for having a highly qualified and experienced teaching staff. In this way, students who choose TECH to take this academic program in Corneal Pathology Disknistic Procedures will be able to acquire the knowledge and skills necessary to excel in their professional careers and contribute to the advancement of Corneal Pathology. This, thanks to the competent and experienced management of the best experts in the field.





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First class teachers will be accompanying your educational process and helping you to boost your professional career in the field of Corneal Pathology. Cheer up and don't miss the opportunity to learn with the best!"

International Guest Director

Dr. Beeran Meghpara is an internationally renowned ophthalmologist specializing in Cornea, Cataract and Laser Refractive Surgery.

He has served as Director of Refractive Surgery and member of the Cornea Service at Wills Eye Hospital in Philadelphia, a world leading center in the treatment of eye diseases. Here, this expert has performed all forms of Corneal Transplantation, including Partial Thickness DMEK and DALK. In addition, he has extensive experience with the latest technology in Cataract Surgery, including Femtosecond Laser and Intraocular Lens Implants, which correct Astigmatism and Presbyopia. He also specializes in the use of Bladeless Custom LASIK, Advanced Surface Ablation and Phakic Intraocular Lens Surgery to help patients reduce their dependence on glasses and contact lenses.

In addition, Dr. Beeran Meghpara has excelled as a scholar by publishing numerous articles and presenting his research at local, national and international conferences, contributing to the field of Ophthalmology. Likewise, he has been honored with the prestigious Golden Apple Resident Teaching Award (2019), in recognition of his dedication to teaching residents in Ophthalmology. In addition, he has been selected by his peers as one of Philadelphia magazine's Best Doctors (2021-2024) and Best Doctor by Castle Connolly (2021), a leading research and information resource for patients seeking the best medical care.

In addition to his clinical and academic work, he has served as an ophthalmologist for the Philadelphia Phillies baseball team, underscoring his ability to handle highly complex cases. In this sense, his commitment to technological innovation, as well as his excellence in medical care, continues to raise the standards in ophthalmic practice worldwide.



Dr. Beeran Meghpara

- Director of the Department of Refractive Surgery at Wills Eye Hospital, Pennsylvania, United States
- Ophthalmic Surgeon at the Center for Advanced Ophthalmic Care, Delaware
- Fellow in Cornea, Refractive Surgery and External Disease at the University of Colorado
- Resident Ophthalmology Physician at Cullen Eye Institute, Texas
- Intern at St. Joseph's Hospital, New Hampshire
- Doctor of Medicine from the University of Illinois, Chicago
- Graduate of the University of Illinois, Chicago
- Selected for the Alpha Omega Alpha Medical Honor Society
- Awards: Golden Apple Resident Teaching Award (2019), Best Doctor from, Philadelphia Magazine (2021-2024), Best Doctor from Castle Connolly (2021)

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Thanks to TECH, you will be able to learn with the best professionals in the world”

Management



Mr. José Miguel Román

- ♦ Ophthalmologist at Oftalvist Málaga
- ♦ Ophthalmologist at Vissum Madrid
- ♦ Ophthalmologist at Dubai International Medical Center
- ♦ Medical Director of Vissum Madrid Sur and Vissum Málaga
- ♦ Specialist in Ophthalmology at the San Carlos Clinical Hospital.
- ♦ Doctor in Ophthalmology
- ♦ Degree in Medicine and Surgery General: from the Autonomous University of Madrid
- ♦ Member of: Spanish Society of Ophthalmology, International Society of Ocular Inflammation, International Society of Ocular Inflammation.



Dr. Hazem Alaskar Alani

- ♦ Ophthalmologist at Oftalvist Málaga
- ♦ Surgical Director of Poniente University Hospital
- ♦ Head of the Ophthalmology Diseases Department, Poniente Hospital
- ♦ Specialist in Ophthalmology at the Puerta De las Nieves University Hospital
- ♦ Degree in Medicine and Surgery from the University of Valencia
- ♦ Doctor of Medicine and Surgery from the University of Almería.
- ♦ Master's Degree in Health Management and Planning, European University of Madrid.
- ♦ Master's Degree in Ophthalmology Medicine from Cardenal Herrera University.
- ♦ Member of: European Retina Society EURETINA, SEDISA, The Spanish Society of Health Managers, Fellow of the European Board of Ophthalmology, FEBO European Society of Cataract and Refractive Surgery, ESCRS, Spanish Society of Implanto Refractive Surgery SECOIR, Andalusian Society of Ophthalmology SAO, Spanish Society of Retina and Vitreous SERV, Fellow of the European School of Retina and Vitreous Surgery EVRS

04

Structure and Content

The Postgraduate Certificate in Diagnostic Procedures in Corneal Pathology is a 100% online program that addresses a variety of corneal-related topics. The structure of the program is composed of ten items that focus on different aspects of corneal morphology, topography, aberrometry, asphericity, biomechanics and exploration of corneal biomechanics. In addition, the correlation between topographic, aberrometric and biomechanical parameters is studied, as well as the relationship between corneal biomechanics and intraocular pressure. Students will gain an in-depth understanding of the structure and function of the cornea, through a renowned methodology implemented by TECH, Relearning. implemented by TECH, the Relearning.






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In this program the most innovative and complete contents are waiting for you to become a great specialist in Corneal Pathology Discnistic Procedures"

Module 1. Topographic, Aberrometric and Biomechanical Study of the Human Cornea

- 1.1. Características morfoestructurales de la córnea
 - 1.1.1. Corneal Morphology
 - 1.1.2. Corneal Histology
 - 1.1.3. Factors influencing corneal morphostructure
 - 1.1.4. Evolution of Corneal Morphostructure
- 1.2. Corneal Topography
 - 1.2.1. Topography concept
 - 1.2.2. Corneal Topography based on Placido Discs
 - 1.2.3. Scheimpflug camera based topography
 - 1.2.4. Practical application of corneal topography to refractive surgery.
- 1.3. Aberrometry
 - 1.3.1. Aberrometry concept
 - 1.3.2. Classification of Optical Aberrations
 - 1.3.3. Types of aberrometers
 - 1.3.4. Practical application of aberrometry to Refractive Surgery.
- 1.4. Asphericity
 - 1.4.1. Asphericity concept
 - 1.4.2. Corneal eccentricity
 - 1.4.3. Cornea Oblata and Prolata
 - 1.4.4. Practical application of asphericity to Refractive Surgery
- 1.5. Corneal Biomechanics
 - 1.5.1. Concept of corneal biomechanics
 - 1.5.2. Factors influencing corneal biomechanics
 - 1.5.3. Corneal tissue: Structure, composition and properties
 - 1.5.4. Biomechanical modeling of the cornea



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- 1.6. Exploration of corneal biomechanics
 - 1.6.1. Bidirectional dynamic application ORA Systems
 - 1.6.2. Confocal Microscopy
 - 1.6.3. Anterior Segment Optical Coherence Tomography
 - 1.6.4. Analysis of deformation after air pulse by means of Scheimpflug chamber
 - 1.7. Corneal biomechanics study
 - 1.7.1. Ocular Response Analyzer
 - 1.7.2. Concept of Corneal Hysteresis
 - 1.7.3. Corvis ST
 - 1.7.4. Measurement parameters with Corvis ST
 - 1.8. Characterization of biomechanical parameters: correlation with topographic and aberrometric parameters.
 - 1.8.1. Correlation of aberrometric and topographic parameters with corneal biomechanics.
 - 1.8.2. Combined topographic and biomechanical indices
 - 1.8.3. Biomechanics of the healthy cornea
 - 1.8.4. Biomechanics of Corneal Ectasia
 - 1.9. Corneal Biomechanics and Intraocular Pressure
 - 1.9.1. Corneal tonometry and biomechanical properties of the cornea
 - 1.9.2. New generation of tonometers
 - 1.9.3. Corneal Biomechanics and Glaucoma
 - 1.9.4. Biomechanical analysis of the optic nerve
 - 1.10. Practical application of corneal biomechanics in refractive surgery.
 - 1.10.1. Biomechanics and Corneal Refractive Surgery PRK technique
 - 1.10.2. Biomechanics and Corneal Refractive Surgery Femtolasik Technique
 - 1.10.3. Biomechanics and Corneal Refractive Surgery Smile Technique
 - 1.10.4. Biomechanics and Intraocular Refractive Surgery

05

Methodology

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

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





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

At TECH we use the Case Method

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

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



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

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

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

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



Relearning Methodology

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

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

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



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

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

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

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

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



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



Study Material

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

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



Surgical Techniques and Procedures on Video

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



Interactive Summaries

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

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



Additional Reading

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





Expert-Led Case Studies and Case Analysis

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



Testing & Retesting

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



Classes

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



Quick Action Guides

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



06 Certificate

The Postgraduate Certificate in Diagnostic Procedures in Corneal Pathology 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 Diagnostic Procedures in Corneal Pathology** 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 Diagnostic Procedures in Corneal Pathology**

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 training

development languages

virtual classroom

tech global
university

Postgraduate Certificate
Diagnostic Procedures
in Corneal Pathology

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Postgraduate Certificate

Diagnostic Procedures in Corneal Pathology