

Postgraduate Diploma

Optometric Procedures in Refractive Surgery





Postgraduate Diploma Optometric Procedures in Refractive Surgery

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

Website: www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-optometric-procedures-refractive-surgery

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01

Introduction

Proper patient selection ensures the best possible results, which is why the role of the ophthalmologist is so important in the evaluation process for the correction of visual ametropia. In this sense, in-depth technical, morphological and biomechanical knowledge of the eye is essential for the correct performance of this procedure. For this reason, TECH has designed this qualification that provides the specialist with an effective update on PRK, LASIK, Femtolasik, Smile techniques, topographic study and decision algorithms. All this, in addition to 100% online content, prepared by renowned experts in Refractive Surgery who provide this program with the most accurate, rigorous and current information.





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TECH has designed a Postgraduate Diploma oriented towards updating and with the flexibility required by ophthalmology professionals for its implementation”

Currently there is a high demand of people who wish to undergo Refractive Surgery to improve their vision and get rid of the daily use of glasses or contact lenses. The boom in this field leads professionals to keep abreast of technical advances, but also to have to update themselves in the most essential concepts for the performance of Optometric Procedures.

In this sense, the specialist must have a deep knowledge of the surgical techniques used for the correction of visual ametropia, the pathologies that may make the intervention impossible, as well as all the factors necessary for the patient's choice. For this reason, this academic institution has designed this 6-month 100% online university degree with the most advanced didactic content.

It is a program designed and developed by a team of leading specialists in the world of Ophthalmology. His extensive knowledge is evident in a syllabus that will lead students to delve into the topographic, Aberrometric and Biomechanical studies of the cornea, the decision algorithms in this type of surgery, as well as the comprehensive evaluation of the patient to achieve optimal results.

To achieve this update, students have at their disposal pedagogical tools in which TECH has used the latest technology applied to academic teaching, in addition to a Relearning system, which will help them to consolidate the concepts addressed in a much easier way and reduce the hours of study.

Thus, the students are faced with a unique program that also offers flexibility in the flexibility to take it. The graduate only needs a digital device with an internet connection to visualize, at any time of the day, the content of this University Expert. with an internet connection to visualize, at any time of the day, the content of this Postgraduate Diploma A convenience that will allow the specialist to reconcile his most demanding responsibilities with a quality degree.

This **Postgraduate Diploma in Optometric Procedures in Refractive Surgery** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of case studies presented by experts in Ophthalmology and Refractive Surgery
- ♦ 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 self-assessment can be used to improve learning's 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



Inquire into advances in PRK, Temtolasik and Smile techniques in relation to Biomechanics and Corneal Refractive Surgery”

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With this program you will learn in depth the most effective tests for the proper interpretation of a patient's aptitude for a surgical intervention”

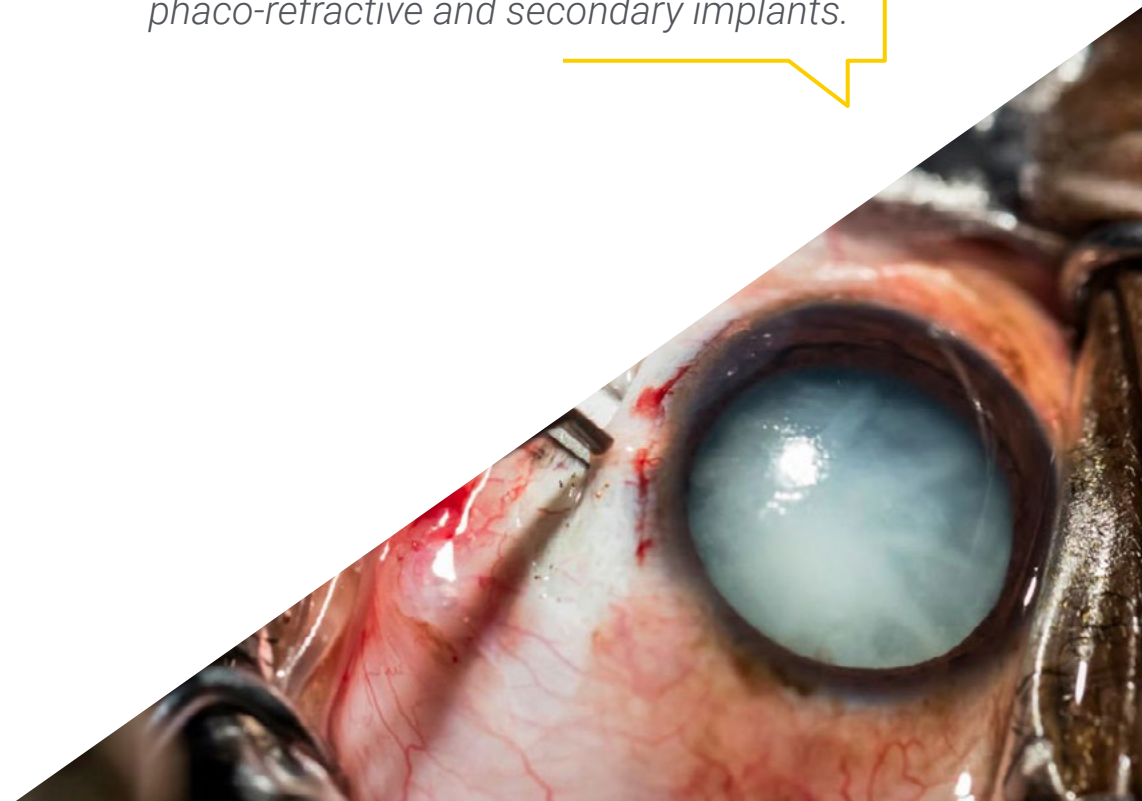
Numerous multimedia materials make this degree more dynamic and show key concepts in greater detail.

You will receive a complete update on laser refractive surgery, with intraocular lens, phaco-refractive and secondary implants.

The program's teaching staff includes professionals from the sector who bring to this training the experience of their work, in addition to recognized specialists from prestigious reference societies and 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 arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.



02

Objectives

The syllabus of this Postgraduate Diploma has been designed with the objective of offering in only 6 months the most exhaustive information on Optometric Procedures in Refractive Surgery. For this purpose, TECH provides a syllabus that provides a theoretical and practical perspective and simulations of clinical cases that will be key to the inclusion of the most appropriate methodology for patient selection, the delay of an intervention by pathologies and the most effective preoperative tests.



A close-up, blue-tinted photograph of a microscope lens. The lens is the central focus, with its circular opening and surrounding metal housing visible. The background is blurred, showing other parts of the microscope. The image is overlaid on a white diagonal shape that points towards the bottom right corner of the page.

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A Postgraduate Diploma with a theoretical-practical approach that will allow you to improve your skills on the pathologies that can delay a surgical intervention”



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
- ♦ To deepen 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
- ♦ To deepen in 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 graduation defects of patients
- ♦ Be aware of the different lenses that are used for this surgery without acting on the cornea or the crystalline lens
- ♦ To deepen the relationship between Glaucoma and Refractive Surgery





Specific Objectives

Module 1. Topographic, Aberrometric and Biomechanical study of the cornea

- ♦ 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 tools
- ♦ Relate what corneal biomechanics is to concepts such as corneal hysteresis and how it is evaluated

Module 2. Decision Algorithms in Refractive Surgery

- ♦ Identify the decision algorithms in the inclusion or not of a patient for Refractive Surgery
- ♦ Point out the ocular pathological processes that will cause the surgery to be delayed, modified in its technique or not performed

Module 3. Preoperative Evaluation for Refractive Surgery

- ♦ Delve into in the indications and contraindications for surgery, both ocular, systemic and familial
- ♦ Describe the pre-surgery tests that are performed to obtain the suitability of a patient prior to surgery



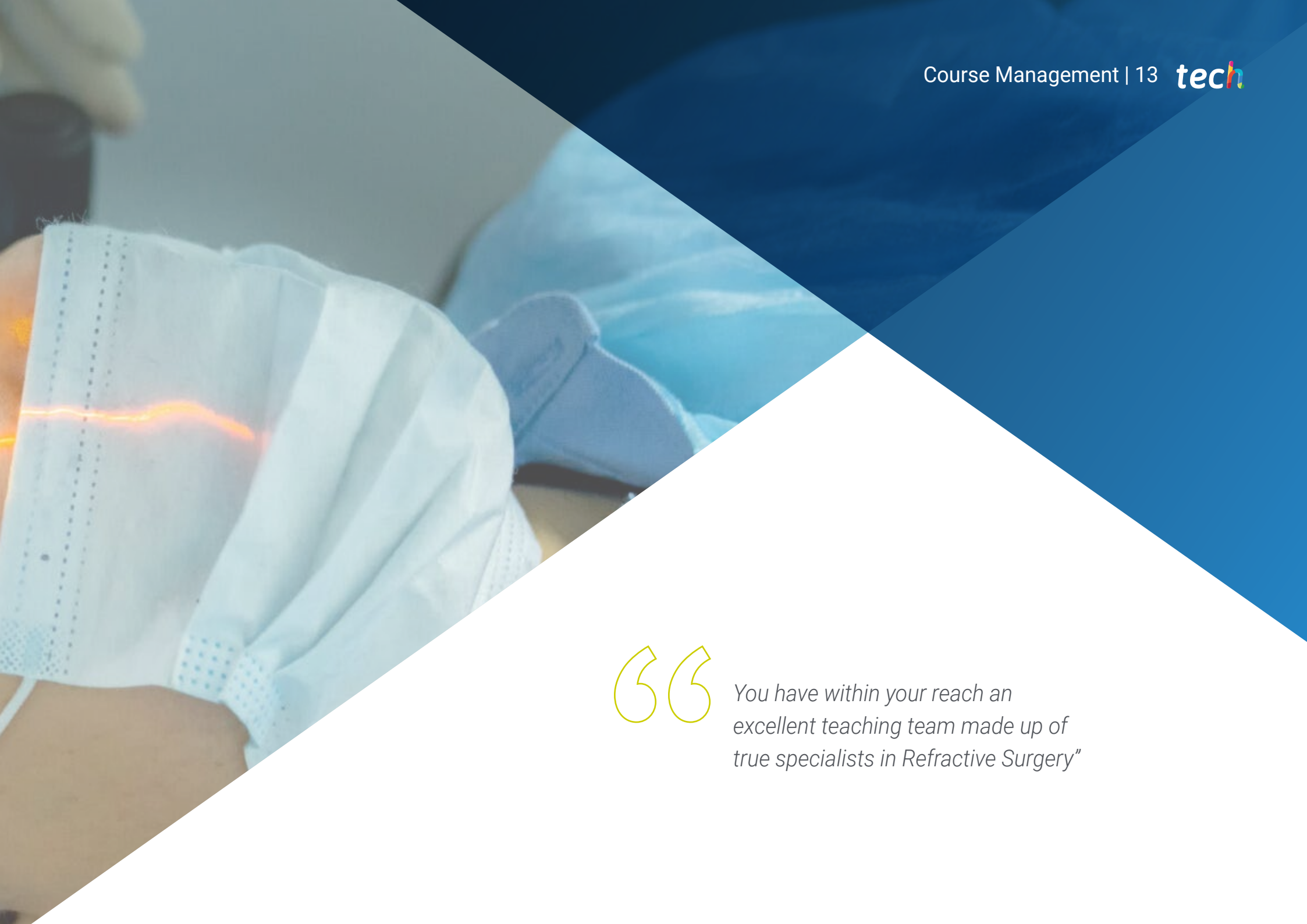
Incorporate into your practice the processes of evaluation and preparation of the patient before performing Refractive Surgery”

03

Course Management

Students who take this Postgraduate Diploma will have a teaching staff distinguished by its extensive clinical experience, especially in Refractive Surgery and its background in the field of research. In this way, the graduate is guaranteed access to a university degree whose syllabus is based on the most rigorous scientific advances and information provided by the best specialists in the field. In addition, thanks to its proximity, you will be able to resolve any questions you may have about the content of this program.





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You have within your reach an excellent teaching team made up of true specialists in Refractive Surgery”

Management



Dr. Alaskar Alani, Hazem

- ♦ Ophthalmologist at Oftalvist Málaga
- ♦ Surgical Director of Hospital Universitario Poniente
- ♦ 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 Implantable 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



Mr. Román Guindo, José Miguel

- ♦ 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

Professors

Dr. Gracia Castro de Luna

- ♦ Specialist in Ophthalmology at the Virgen Macarena University Hospital in Seville
- ♦ Founder of Startup Neurobia Research on neurorehabilitation with Virtual Reality
- ♦ Principal investigator of a research project on custom contact lens design based on corneal reconstruction algorithm
- ♦ Associate Professor in the Nursing, Physiotherapy and Medicine Department at the University of Almería
- ♦ Co-author of a patent on software for virtual neurorehabilitation
- ♦ Co-author of a patent on corneal surface reconstruction
- ♦ Royal Academy of Oriental Medicine Award for best scientific publication
- ♦ Award of the College of Physicians of Almeria to the best publication in specialized care
- ♦ Award of the Social Council of the University of Almeria to the best entrepreneurial initiative
- ♦ ALMUR Business Innovation Award
- ♦ Degree in Medicine and Surgery from the University of Granada
- ♦ Grade in Pharmacy Medicine from the Alfonso X El Sabio University of Madrid
- ♦ Doctor of Medicine from the University Miguel Hernández
- ♦ Diploma in Epidemiology and Clinical Research from the Andalusian School of Public Health

Dr. Agustín Francisco Morbelli Bigioli

- ♦ Director Dr. Morbelli Ophthalmology Center
- ♦ Eye Health General Ophthalmology Physician
- ♦ Physician of the Cornea and Refractive Surgery Service of the Vision Institute
- ♦ Ad Honorem Professor of Ophthalmology UDH UBA, Bernardino Rivadavia Hospital, Ophthalmology Service, Rivadavia Hospital
- ♦ University Specialist in Ophthalmology SAO
- ♦ Degree in Medicine from Maimonides University
- ♦ Master's Degree in Ophthalmology from the CEU University



Make the most of this opportunity to learn about the latest advances in this subject to apply it to your daily practice”



04

Structure and Content

In order to promote a complete update of knowledge, TECH provides professionals with an exhaustive syllabus and clinical cases. In this way, you will be able to go deeper with greater agility and accuracy through the most precise Optometric Procedures in Refractive Surgery. Moreover, this content will be available to students 24 hours a day, 7 days a week and from any digital device with an Internet connection.





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It advances in a much more natural way and reinforces the concepts with the Relearning learning methodology used by TECH”

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





- 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

Module 2. Decision Algorithms in Refractive Surgery

- 2.1. General decision algorithm in Refractive Surgery
 - 2.1.1. Refractive stability
 - 2.1.2. Contraindications
 - 2.1.3. Background
 - 2.1.4. Ametropia algorithm
- 2.2. Refractive stability
 - 2.2.1. Myopia
 - 2.2.2. Hyperopia
 - 2.2.3. Astigmatism
 - 2.2.4. Selection Criteria
- 2.3. Contraindications and systemic medication
 - 2.3.1. Absolute general contraindications
 - 2.3.2. Relative general contraindications
 - 2.3.3. Systemic medication: Tear and cornea
 - 2.3.4. Systemic medication Pupil and refractive alteration
- 2.4. Conjunctivo palpebral pathology
 - 2.4.1. Stye
 - 2.4.2. Chalation
 - 2.4.3. Allergy
 - 2.4.4. Pathology
- 2.5. Corneouveal pathology
 - 2.5.1. Leukomas
 - 2.5.2. Acute inflammations
 - 2.5.3. Active uveitis
 - 2.5.4. Inactive uveitis
- 2.6. Peripheral Corneal Ectasias and Ulcers
 - 2.6.1. Keratoconus/ Pellucid marginal degeneration
 - 2.6.2. After Lasik
 - 2.6.3. Infectious-inflammatory ulcers
 - 2.6.4. Dystrophies
- 2.7. Dry eyes
 - 2.7.1. Indications for dryness assessment
 - 2.7.2. Schirmer y Tiempo de ruptura (BUT)
 - 2.7.3. Rose of Bengal
 - 2.7.4. Lasik and dry eye
- 2.8. Binocular vision impairment
 - 2.8.1. Anisometropia
 - 2.8.2. Forias
 - 2.8.3. Trophies
 - 2.8.4. Amblyopia
- 2.9. Intraocular Pressure Alteration (IOP)
 - 2.9.1. IOP considerations
 - 2.9.2. Ocular Hypertension
 - 2.9.3. Glaucoma
 - 2.9.4. Future assessments of IOP
- 2.10. Algorithm in ametropia and pediatrics
 - 2.10.1. Myopia
 - 2.10.2. Hyperopia
 - 2.10.3. Astigmatism
 - 2.10.4. Pediatric Refractive Surgery

Module 3. Preoperative Evaluation for Refractive Surgery

- 3.1. Patient selection for Refractive Surgery
 - 3.1.1. Age
 - 3.1.2. Refractive defects
 - 3.1.3. Refractive stability
 - 3.1.4. Presence of contraindications
- 3.2. Medical History
 - 3.2.1. Current disease
 - 3.2.2. Personal background
 - 3.2.3. Family Background
 - 3.2.4. Previous surgeries
- 3.3. Ophthalmologic History
 - 3.3.1. History of previous procedures
 - 3.3.2. History of personal ocular pathologies
 - 3.3.3. Family history of ocular pathologies
 - 3.3.4. History of contraindication in another center
- 3.4. Medications
 - 3.4.1. General Notions
 - 3.4.2. Amiodarone
 - 3.4.3. Venlafaxine
 - 3.4.4. Sumatriptan
 - 3.4.5. Isotretinone
- 3.5. Expectations
 - 3.5.1. Patient Expectations
 - 3.5.2. What we can offer
 - 3.5.3. Alternatives to the treatment proposed by the patient
 - 3.5.4. Avoid problems
- 3.6. Physical Evaluation
 - 3.6.1. Visual acuity
 - 3.6.2. Keratometry
 - 3.6.3. Biomicroscopy
 - 3.6.4. Fundus
- 3.7. Preoperative studies
 - 3.7.1. Ocular surface analysis
 - 3.7.2. Corneal biomechanics analysis
 - 3.7.3. Biometry and pupils
 - 3.7.4. Optical Coherence Tomography (OCT)
- 3.8. Study of the retina
 - 3.8.1. Papilla
 - 3.8.2. Macula
 - 3.8.3. Vascular Disorders
 - 3.8.4. Peripheral retina
- 3.9. Other studies
 - 3.9.1. Endothelial count
 - 3.9.2. Meibography
 - 3.9.3. Contrast Sensitivity
 - 3.9.4. Aberrometry
- 3.10. Special considerations for each type of surgery
 - 3.10.1. Laser Refractive Surgery
 - 3.10.2. Refractive surgery with intraocular lens
 - 3.10.3. Phaco-refractive surgery
 - 3.10.4. Secondary implant surgery



Design treatments according to the needs of each patient by applying the technical advances in Aberrometry”

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 Diploma in Optometric Procedures in Refractive Surgery guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.





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

This **Postgraduate Diploma in Optometric Procedures in Refractive Surgery** contains the most complete and up-to-date scientific program on the market.

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

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

Title: **Postgraduate Diploma in Optometric Procedures in Refractive Surgery**

Official N° of Hours: **450 h.**



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

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

tech technological
university

Postgraduate Diploma
Optometric Procedures
in Refractive Surgery

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

Postgraduate Diploma

Optometric Procedures in Refractive Surgery

