



# Postgraduate Diploma

# Ocular Pathology

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

We b site: www.techtitute.com/us/nursing/postgraduate-diploma/postgraduate-diploma-ocular-pathology

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# tech 06 | Introduction

The work of the nursing professional is developed in multiple and different areas of intervention. From the patient's reception and accompaniment to, the moment of treatment application and follow; up control, the nursing staff must have the capacity of a multifunctional worker.

This is also essential in the Ophthalmic Nursing The nursing professional requires a solid specialization that qualifies them in the work areas in which they are going to develop their work. This performance is also affected by the constant technical and technological advances in this field, which means that professionals must be attentive to all updates so as not to become outdated at great speed.

However, achieving this update requires a dedication that is not always compatible with real life.

This complete Postgraduate Diploma has managed to reconcile the intensity of a very complete program, which covers all the essential aspects of the specialization of an expert in ophthalmic nursing, with the daily life of any professional, even those who are in practice.

Through a study approach that takes advantage of the most efficient teaching formulas and the most useful and versatile online systems, this Postgraduate Diploma is a highly qualified tool that will take you, step by step, at your own pace but without delay, to the most demanding educational goal.

A luxury program that we put within your reach with the best conditions of the educational market

This **Postgraduate Diploma in Ocular Pathology** contains the most complete and up-todate scientific program on the market. Its most notable features are:

- The latest technology in online teaching software
- A highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- Practical cases presented by practising experts
- State-of-the-art interactive video systems
- Teaching supported by telepractice
- Continuous updating and recycling systems
- Autonomous learning: full compatibility with other occupations
- Practical exercises for self-evaluation and learning verification
- Support groups and educational synergies: questions to the expert, debate and knowledge forums
- Communication with the teacher and individual reflection work
- Content that is accessible from any fixed or portable device with an Internet connection
- Supplementary documentation databases are permanently available, even after the course



With this Postgraduate Diploma you will be able to combine high-intensity training with your professional and personal life, achieving your goals in a simple and real way"



A program created and directed by professional experts in Ophthalmic Nursing that make this Postgraduate Diploma a unique opportunity for professional growth"

Our teaching staff is made up of professionals from different fields related to this specialty. In this way TECH ensures that it delivers the targeted capacitive update it intends. A multidisciplinary team of professionals, trained and experienced in different environments, who will cover the theoretical knowledge in an efficient way, but, above all, will bring the practical knowledge derived from their own experience to the course: one of the differential qualities of this course.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Postgraduate Diploma in Ocular Pathology. Developed by a multidisciplinary team of experts who integrate the latest advances in educational technology. In this way, you will be able to study with a range of comfortable and versatile multimedia tools that will give you the operability you need in your training.

The design of this program is based on Problem-Based Learning: an approach that views learning as a highly practical process. To achieve this remotely, telepractice will be used. With the help of an innovative interactive video system andlearning from an expert will be to acquire the knowledge as if you were facing the scenario you are learning at that moment. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

The learning of this Postgraduate Diploma is developed through the most advanced didactic means in online teaching to guarantee that your effort will have the best possible results.

Our innovative telepractice concept will give you the opportunity to learn through an immersive experience, which will provide you with a faster integration and a much more realistic view of the contents: "learning from an expert.







# tech 10 | Objectives

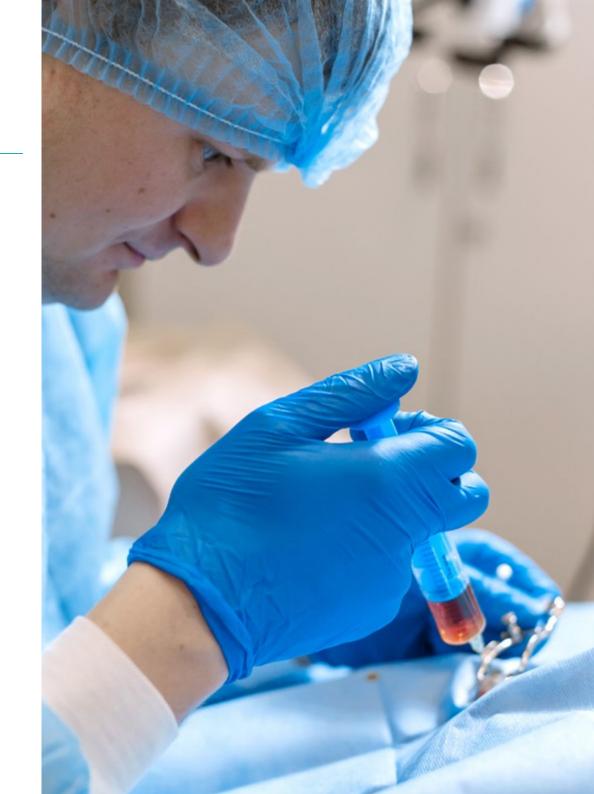


# **General Objectives**

- Specialize quality nurses to offer high-level ophthalmic nursing care
- Acquire knowledge and skills that will enable nurses to practice their profession autonomously within the field of ophthalmic nursing



A boost to your CV that will give you the competitiveness of the best prepared professionals in the labor market"





#### Module 1. Ocular Anatomy and Physiology

- Update students' knowledge of the anatomy and physiology of the eyeball in the master's program
- Know the anatomy, histology, physiology, neurophysiology and biochemistry of the visual system and the process of vision
- Provide and expand on previous knowledge of how the organ responsible for vision functions
- Go through each and every one of the elements that make up our eye in an interactive way, by means of images, photographs and videos

#### Module 2. Principles of Applied Optics

- Explain in a simple way what optics applied to vision consists of so that the student understands the importance of the concepts in daily clinical practice
- Value and incorporate the technological improvements necessary for the correct development of their professional activity
- Demonstrate understanding of the general structure of optometry and its connection with other specific and complementary disciplines
- Demonstrate the ability to participate effectively in unidisciplinary and multidisciplinary work groups in projects related to optometry

#### Module 3. Ocular Pharmacology

- Interpret pharmacokinetic, pharmacodynamic and toxicological data of drugs used in the prevention and treatment of ocular conditions, diagnostic tests and visual examinations
- Recognize and characterize the different dosage forms and routes of administration of drugs used in the prevention and treatment of ocular conditions, diagnostic tests and visual examinations
- Describe, justify and apply the clinical criteria governing the rational use of drugs used in the prevention and treatment of ocular conditions, diagnostic tests and visual examinations
- Apply the clinical procedures necessary for the early detection of an ocular adverse reaction Establish lines of action in case of an ocular adverse reaction

### Module 4. Ocular Pathology

- Be able to identify the main problems of ophthalmologic pathology Know the theoretical basis of diagnostic methods in ophthalmologic pathology
- Know the diagnosis and medical-surgical therapeutics of the main diseases of the visual apparatus
- Recognize the ocular manifestations of systemic diseases
- Detect and evaluate the main ophthalmologic disorders in order to refer patients to an ophthalmologist for study and treatment
- Know the epidemiological patterns of the main visual pathologies



# tech 14 | Course Management

# Management



# Mr. Medina Andana, Francisco Javier

- Nurse in charge of operating rooms
- University Diploma in Nursing, University School Virgen del Rocio
- University Diploma in Nursing, University of Seville
- Member of the Spanish Society of Ophthalmic Nursing

### **Professors**

### Mr. Lopez Muñoz, Alfredo

- Responsible for the Refractive Unit at Virgen de Luján Clinic
- Degree in Optics and Optometry from the European University of Madrid
- Official Master's Degree in Clinical Optometry and Research at Camilo José Cela University, Madrid
- Diploma in Optics from the Complutense University of Madrid
- PhD from the University of Seville
- Associate Professor. Dept. of Condensed Matter Physics Degree in Optics and Optometry at the University of Seville

### Mr. López-Brea Sica, Israel

- Responsible for Surgery, sterilization and maintenance of the Institute of Advanced Ophthalmology (IOA Madrid)
- Degree in Nursing: European University of Madrid
- Degree in Law Complutense University of Madrid

# Mr. Molina Lepe, Esteban

- Ophthalmologist specializing in anterior pole, cataract surgery and refractive surgery at Clínica Virgen de Luján
- Degree in Medicine and Surgery from the Faculty of Medicine, University of Córdoba
- Specialist in Ophthalmology through MIR at the Puerta De Jerez Hospital of la Frontera
- Full member of the Spanish Society of Ophthalmology (SEO)







# tech 18 | Structure and Content

# Module 1. Ocular Anatomy and Physiology

1.1.	Eyebal		
	1.1.1	Outer Layer	
		1.1.1.1. Cornea	
		1.1.1.2. Sclera	
		1.1.1.3. Sclerocorneal Limbus	
	1.1.2	Middle or Vascular Layer	
		1.1.2.1. Iris	
		1.1.2.2. Ciliary Body	
		1.1.2.3. Choroid	
	1.1.3	Inner or Neurosensory Layer	
		1.1.3.1. Retina	
		1.1.3.2. Vitreous Humor	
1.2.	Lens		
	1.2.1	Description and Characteristics	
	1.2.2	Morphological	
	1.2.3	Phenomenon of Accommodation	
1.3.	Conjunctive		
	1.3.1	Description and Characteristics	
	1.3.2	Layers of the Conjunctiva	
1.4.	Eyelids		
	1.4.1	Description and Characteristics	
	1.4.2	Description of the Layers of the Eyelid	
1.5.	Lacrimal System		
	1.5.1	Secretory Lacrimal System	
	1.5.2	Excretory Lacrimal System	
1.6.	Ocular Orbit		
	1.6.1	Description	
	1.6.2	Orbital Openings	
	163	Structure of the Orbital Bone	





# Structure and Content | 19 tech

- 1.7. Eye Muscles
  - 1.7.1 Description
  - 1.7.2 Different Eye Muscles
  - 1.7.3 Muscle Action
- 1.8. Optical Route
  - 1.8.1 Optic Nerve
  - 1.8.2 Optic Chiasm
  - 1.8.3 Optical Ribbons
  - 1.8.4 Visual Centers
  - 1.8.5 Optical Radiation
  - 1.8.6 The Visual Cortex
- 1.9. Vascularization of the Eyeball
  - 1.9.1 Eyeball Arteries
  - 1.9.2 Eyeball Veins
- 1.10. Eyeball Innervation
  - 1.10.1 Description
  - 1.10.2 Different Ocular Nerves
  - 1.10.3 Neuro-Ophthalmology
  - 1.10.4 Image Formation

# **Module 2.** Principles of Applied Optics

- 2.1. Refractive Status of the Human Eye
  - 2.1.1 Normal Eyes Description
  - 2.1.2 Refractive Defects or Ametropias
- 2.2. Myopia
  - 2.2.1 Description
  - 2.2.2 Types of Myopia
  - 2.2.3 Causes and Symptoms
  - 2.2.4 Correction of Myopia
- 2.3. Hyperopia
  - 2.3.1 Description
  - 2.3.2 Types of Hyperopia
  - 2.3.3 Causes and Symptoms
  - 2.3.4 Correction of Hyperopia

# tech 20 | Structure and Content

2.4.	Astigmatism			
	2.4.1	Description		
	2.4.2	Types of Astigmatism		
	2.4.3	Causes and Symptoms		
	2.4.4	Correction of Astigmatism		
2.5.	Anison	netropia		
	2.5.1	Concept		
	2.5.2	Classification		
	2.5.3	Treatment		
	2.5.4	Aniseikonia		
2.6.	Presby	Presbyopia and Accommodation		
	2.6.1	Concept		
	2.6.2	Causes and Symptoms		
	2.6.3	Anatomy of the Accommodative System		
	2.6.4	Mechanism of Accommodation		
2.7.	Binocu	lar Vision		
	2.7.1	Concept		
	2.7.2	Stages of Development		
	2.7.3	Determination of Stereoscopic Visual Acuity		
		2.7.3.1. Types of Coincidence		
		2.7.3.2. Lang Test		
		2.7.3.3. Titmus Test		
		2.7.3.4. TNO Test		
		2.7.3.5. Frisby Test		
	2.7.4	Amblyopia		
		2.7.4.1. Concept		
		2.7.4.2. Classification of Amblyopia		
	2.7.5	Strabismus		
		2.7.5.1. Concept		
		2.7.5.2. Classification		
		2.7.5.3. Motor Adaptation to Strabismus		

	Z.8. I	Concept
	2.8.2	Types of Anomalies
	2.8.3	Anomaly Detection Systems
2.9.	Measur	ement of Ocular Refraction
	2.9.1	Concept
	2.9.2	Types of Measurement
		2.9.2.1. Objective Refraction
		2.9.2.2. Retinoscopy
		2.9.2.3. Autorefractomery
		2.9.2.4. Keratometry
2.10.	Types o	of Ophthalmic Lenses
	2.10.1	Optical Lens Concept
	2.10.2	Types of Optical Lenses
		2.10.2.1. Spherical Lenses
		2.10.2.2. Astigmatic Lenses
		2.10.2.3. Prismatic Lenses
		2.10.2.4. Multifocal Lenses

2.8. Chromatic Vision

# Module 3. Ocular Pharmacology

- 3.1. Principles of Pharmacology
  - 3.1.1 Absorption, Distribution, Biotransformation and Elimination of Drugs
  - 3.1.2 Mechanisms of Action for Drugs
- 3.2. Pharmacological Aspects in Ophthalmology
  - 3.2.1 Bioavailability
  - 3.2.2 Ophthalmological Physiological Factors
  - 3.2.3 Types of Ophthalmic Pharmacological Formulations
  - 3.2.4 Ophthalmic Drug Administration Procedure

Ophthal	almic Drugs		
3.3.1	Anesthetics		
	3.3.3.1. Definition		
	3.3.3.2 Types of Anesthetics		
3.3.2	Mydriatics and Cycloplegics		
	3.3.2.1. Definition		
	3.3.2.2. Types and Action		
3.3.3	Antibiotics		
	3.3.3.1. Definition		
	3.3.3.2. Most Commonly Used Types of Antibiotics		
3.3.4	Antivirals		
	3.3.4.1. Definition		
	3.3.4.2. Types of Ophthalmic Antivirals		
3.3.5	Antifungal Drugs		
	3.3.5.1. Definition		
	3.3.5.2. Types of Antifungals		
	3.3.5.3.3. Routes of Administration and Doses		
3.3.6	Antiparasitics II		
	3.3.6.1. Definition		
	3.3.6.2. Therapeutic Guide		
3.3.7	Ocular Anti-Inflammatory Drugs		
	3.3.7.1. Definition		
	3.3.7.2. Types of Anesthetics		
3.3.8	Immunotherapy		
	3.3.8.1. Definition		
	3.3.8.2. Types of Drugs		
3.3.9	Ocular Hypotensive Drugs		
	3.3.9.1. Definition		
0.040	3.3.9.2. Types of Hypotensive Drugs		
3.3.10.	Antiangiogenics		
	3.3.10.1. Definition		
	3.3.10.2. Types of Drugs		
	3.3.10.3. Ocular and Systemic Adverse Effects		

3.3.

		3.3.11.1. Definition	
		3.3.11.2. Types of Tears	
	3.3.12.	Botulinum Toxin	
		3.3.12.1. Definition	
		3.3.12.2. Types of Drugs	
3.4.	Biologic	cal and Diagnostic Dyes	
	3.4.1	Definition	
	3.4.2	Classification	
3.5.	Viscoel	astic Agents	
	3.5.1	Definition	
	3.5.2	Classification	
	3.5.3	Indications and Clinical Applications	
	3.5.4	Adverse Effects	
3.6.	Solutions for Intraocular Irrigation		
	3.6.1	Definition	
	3.6.2	Types of Solutions	
3.7.	Vitreou	s Substitutes	
	3.7.1	Definition	
	3.7.2	Types of Vitreous Substitutes	
	3.7.3	Features and Clinical Applications	
3.8.	Ophtha	lmic Adhesives	
	3.8.1	Definition	
	3.8.2	Types of Adhesives	
	3.8.3	Clinical Applications	
3.9.	Adverse	e Ocular Reactions to Systemic Drugs	
	3.9.1	Definition	
	3.9.2	Adverse Reaction	
	3.9.3	Adverse Ocular Reactions to Systemic Drugs	
3.10.	Pharma	acology Applications to Nursing Practice	
	3.10.1	Legal Framework and Nursing Process	
	3.10.2	Problems Resulting from Pharmacologic Therap	
	3.10.31	Nurse Prescription	

3.3.11. Tears and Moisturizers

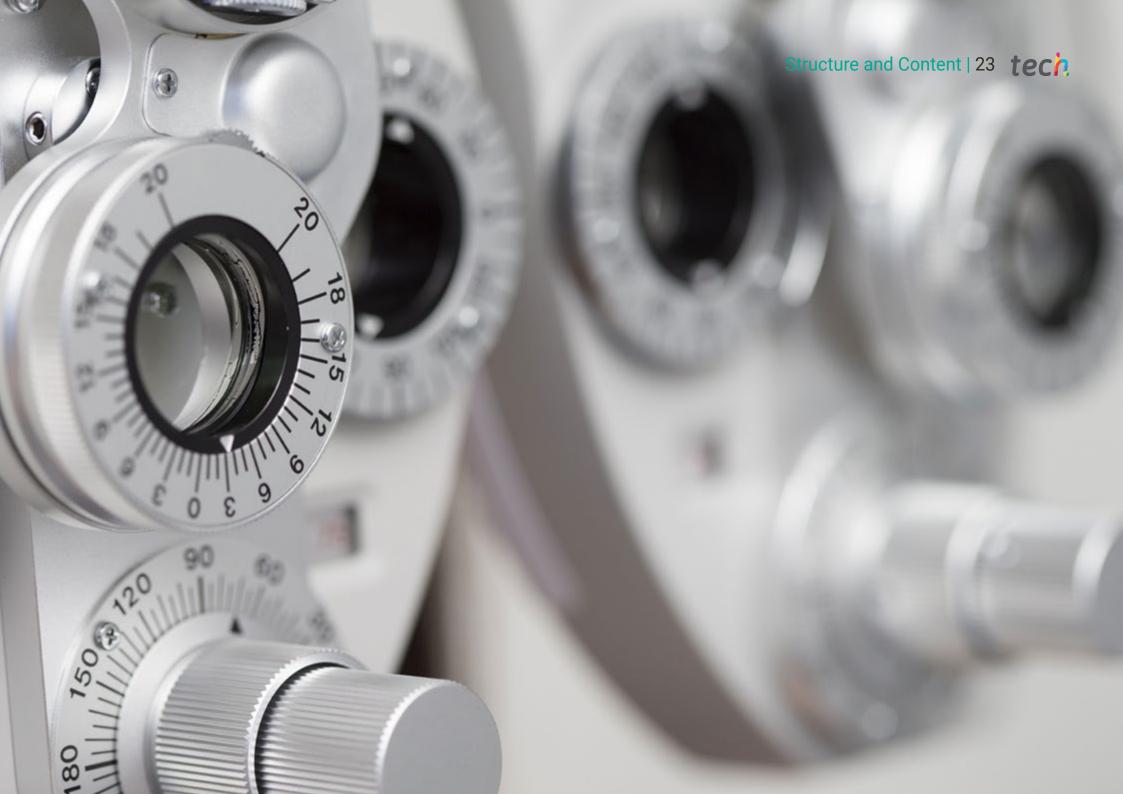
# tech 22 | Structure and Content

# Module 4. Ocular Pathology 4.1. Lens. Cataracts 4.1.1 Definition 4.1.2 Types of Cataracts 4.1.3 Treatment 4.2. Macular and Retinal Pathology 4.2.1 Definition of Macular and Retinal Pathology 4.2.2 Types of Macular and Retinal Pathology 4.2.3 Treatment Glaucoma 4.3. 4.3.1 Definition 4.3.2 Types of Glaucoma 4.3.3 Treatment Strabismus 4.4.1 Introduction 4.4.2 Types of Strabismus 4.4.3 Treatment 4.5. Eyelids and Eyelashes 4.5.1 Introduction 4.5.2 Types of Eyelid Pathologies 4.5.3 Treatment Conjunctiva and Sclera 4.6.1 Introduction 4.6.2 Types of Conjunctivitis 4.6.3 Episcleritis Scleritis 4.6.4 Treatment 4.7. Orbit 4.7.1 Introduction

4.7.2 Types of Diseases

8.	Uveitis		
	4.8.1	Introduction	
	4.8.2	Types of Uveitis	
	4.8.3	Treatment	
9.	Lacrimal Duct		
	4.9.1	Introduction	
	4.9.2	Types of Obstructions	
	4.9.3	Treatment	
10.	Cornea		
	4.10.1	Introduction	
	4.10.2	Types of Corneal Diseases	
		4.10.2.1. Keratitis	
		4.10.2.2. Ectasias	
		4.10.2.3. Dystrophies	
	4.10.3	Treatment	

4.





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.

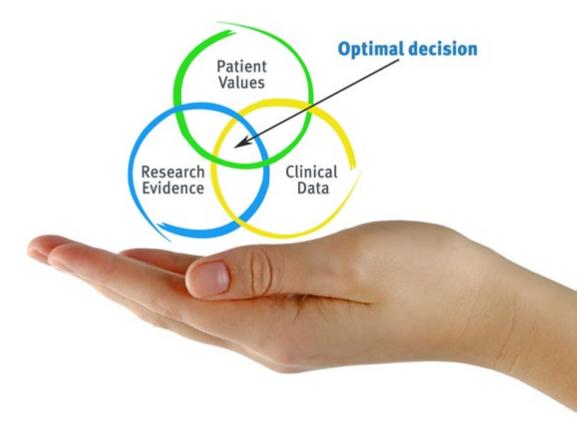


# tech 26 | Methodology

# At TECH Nursing School we use the Case Method

In a given situation, what should a professional do? 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. Nurses learn better, faster, and more sustainably over time.

With TECH, nurses can experience a learning methodology 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, in an attempt to recreate the real conditions in professional nursing 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:

- Nurses who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
- 2. The learning process has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
- 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 case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.

The nurse will learn through real cases and by solving complex situations in simulated learning environments.

These simulations are developed using state-of-the-art software to facilitate immersive learning.



# Methodology | 29 tech

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 we have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical workload. 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 really 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.



### **Nursing Techniques and Procedures on Video**

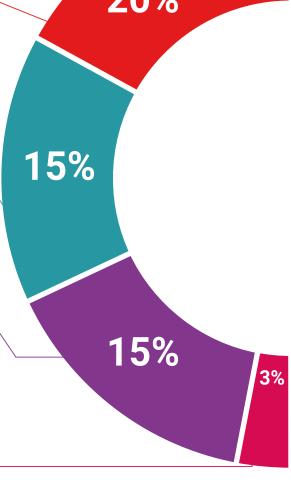
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch them as many times as you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



#### **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

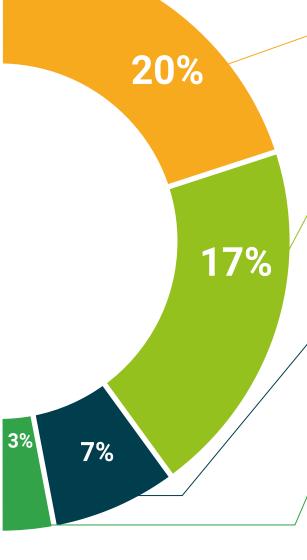
There is scientific evidence suggesting that observing third-party experts can be useful.

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.







# tech 34 | Certificate

This **Postgraduate Diploma in Ocular Pathology** 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 Ocular Pathology** Official N° of Hours: **600 h.** 



Ocular Pathology

This is a qualification awarded by this University, equivalent to 600 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.

Unique TECH Code: AFWORD235 techtristic com/certificates

<sup>\*</sup>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 confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning



# Postgraduate Diploma Ocular Pathology

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