

# Postgraduate Certificate Crystalline Lens Diseases and Surgery in Small Animals



## Postgraduate Certificate Crystalline Lens Diseases and Surgery in Small Animals

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

Website: [www.techtute.com/us/veterinary-medicine/postgraduate-certificate/crystalline-lens-diseases-surgery-small-animals](http://www.techtute.com/us/veterinary-medicine/postgraduate-certificate/crystalline-lens-diseases-surgery-small-animals)

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# 01

# Introduction

Developing the capacity of veterinary professionals in the intervention of crystalline lens pathologies requires a comprehensive learning process that updates their capacity to provide an adequate response to ophthalmologic conditions in small animal clinics. As part of the assurance and quality that TECH offers, this program provides you with the opportunity to take a high-quality step that will put you at the forefront of patient care in small animal clinics.





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*A highly specific Postgraduate Certificate program created to offer professionals a specialization that holds maximum interest in the care of crystalline lens pathologies in small animals"*

The crystalline lens is the eyeball structure with the second-highest dioptric power. To allow light photons to pass through to the retina, the lens must be completely transparent. Any alteration in their shape, position or transparency will hinder the patient's vision, and possibly cause serious secondary intraocular disorders.

In this program, the classification of cataracts, both in origin and extent, will be discussed. The resolution of crystalline lens opacity requires intraocular surgery, but not all patients are successfully treated through this option, nor will all associated pathologies, so we will discuss in which patients, as well as how and when, it can be performed.

In addition, preparation of the ophthalmology operating room will be discussed, as well as that of the patient and postoperative control, which is essential to obtain good surgical results. Anesthesia for ophthalmic patients requires knowledge of the effects that pharmacological substances will have on globe position, intraocular pressure and other factors that may complicate or facilitate surgery. Loco-regional blocks can help us with these tasks, so we will learn about the main drugs used and their effects on patients.

This **Postgraduate Certificate in Crystalline Lens Diseases and Surgery in Small Animals** contains the most complete and up-to-date scientific program on the market. Its most important features include:

- ◆ Case studies presented and developed by experts in Veterinary Ophthalmology
- ◆ Graphic, schematic, and practical contents created to 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
- ◆ 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



*Study and incorporate new techniques in lens diseases and surgery through an innovative and high-impact teaching method"*



*Through the efficiency of a study system created for online teaching, this program is the best option to boost your professional growth"*

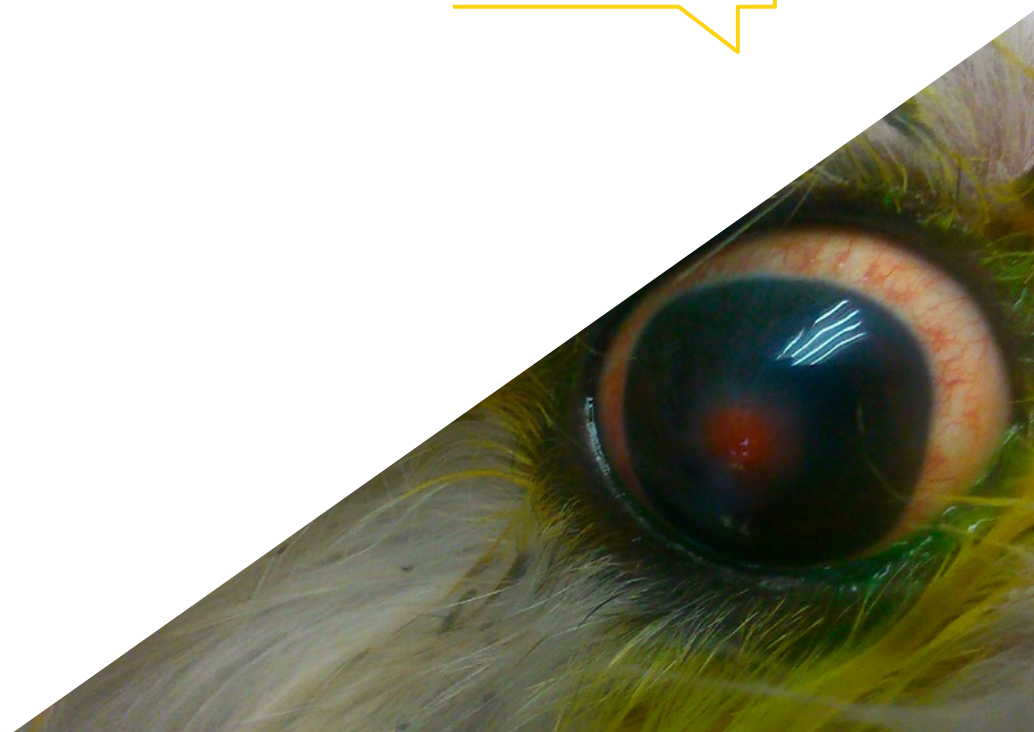
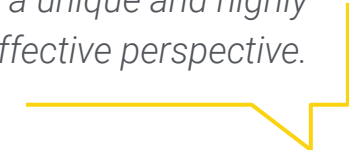
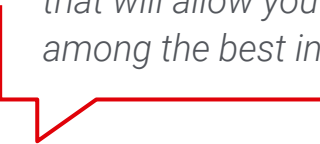
The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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 immersion 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 throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*This Postgraduate Certificate will give your resume the difference that will allow you to compete among the best in the field.*

*Studies that will offer you the knowledge from a unique and highly effective perspective.*



# 02 Objectives

Specialized knowledge in the approach to crystalline lens diseases and surgery in veterinary ophthalmology, through a program that TECH has designed to offer the most comprehensive and updated academic program on the market. After completing the 150 hours of study of the Postgraduate Certificate, professionals will be able to practice in this exciting field with total precision and from a perspective based on maximum scientific rigor, the most relevant studies and the latest advances.





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*A spectacular, intensive and comprehensive growth program that will take your care-giving skills to an expert level"*



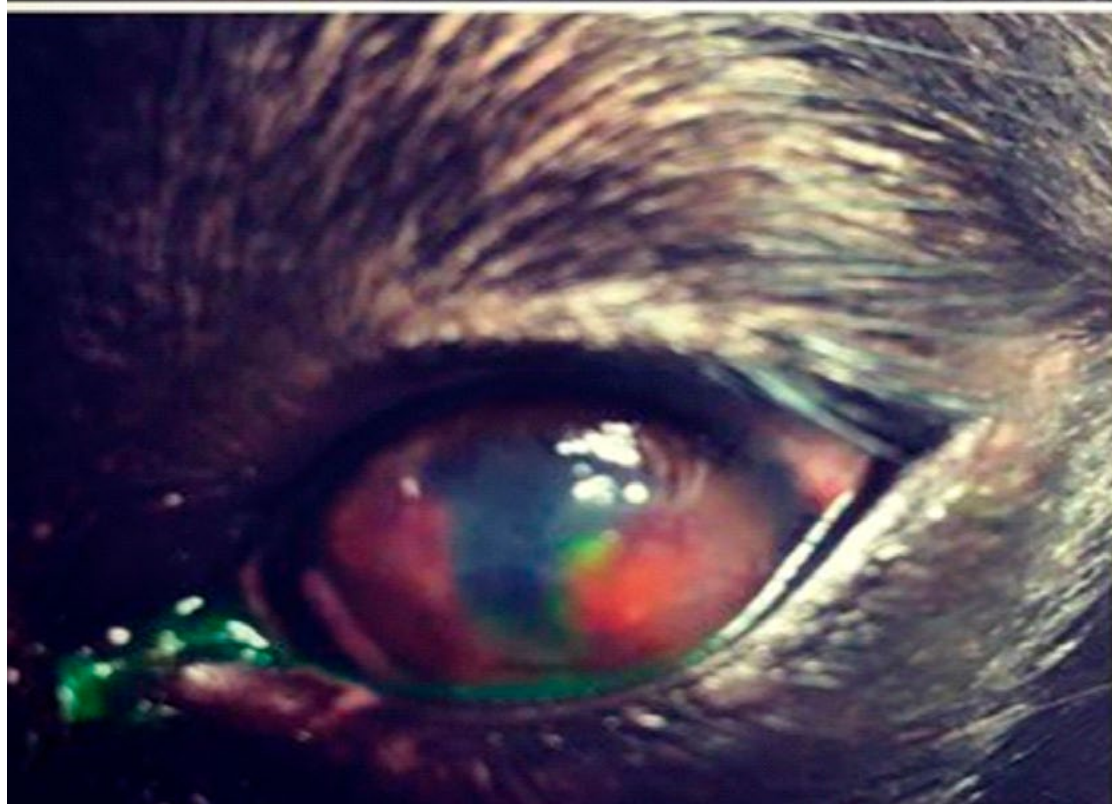
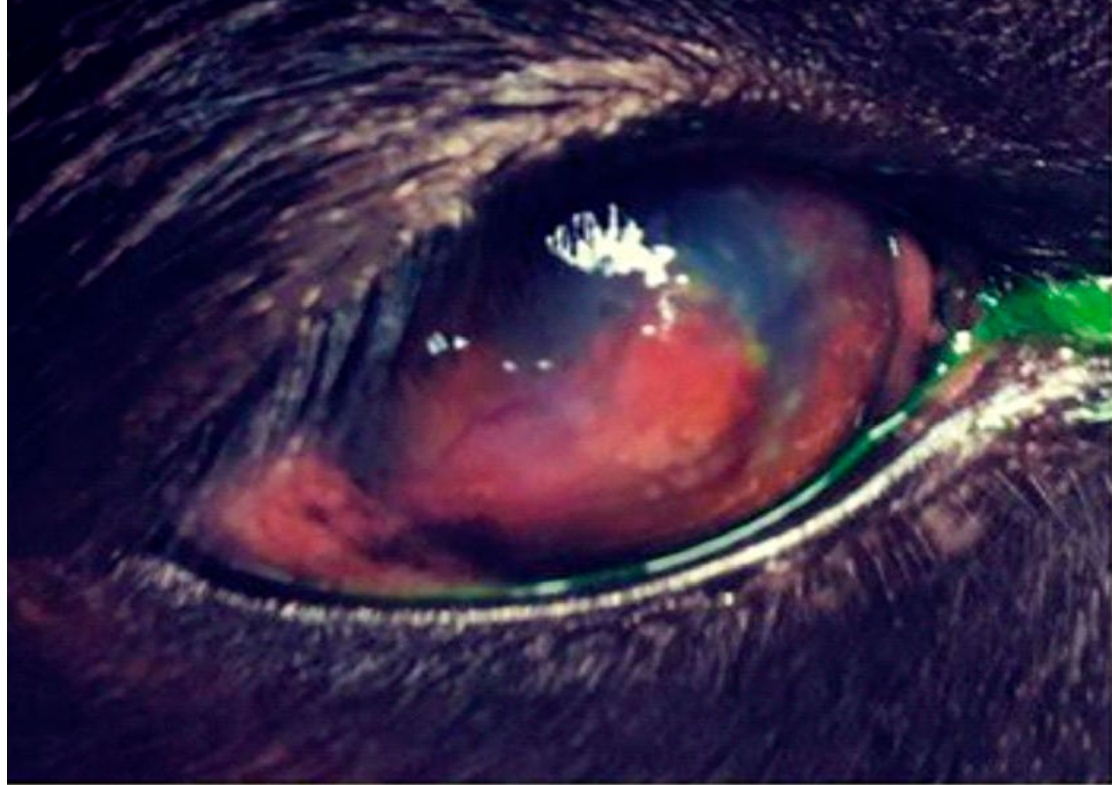
## General Objectives

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- Incorporate new developments in the diagnosis and treatment of lens pathologies
- Examine pathophysiology
- Apply specialized knowledge of congenital and acquired pathologies
- Develop surgical approach abilities and more advanced techniques as applied to lens pathology treatments



*The objectives of this program form the basis for a learning experience that will gradually bring you closer to excellence in your profession"*





## Specific Objectives

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- ◆ Identify advances in the approach to cataract surgery
- ◆ Compile the basics for setting up a microsurgery operating room
- ◆ Identify the use of different drugs for intraocular surgery
- ◆ Offer tips for the management of intra-, pre- and post-operative complications in lens surgery



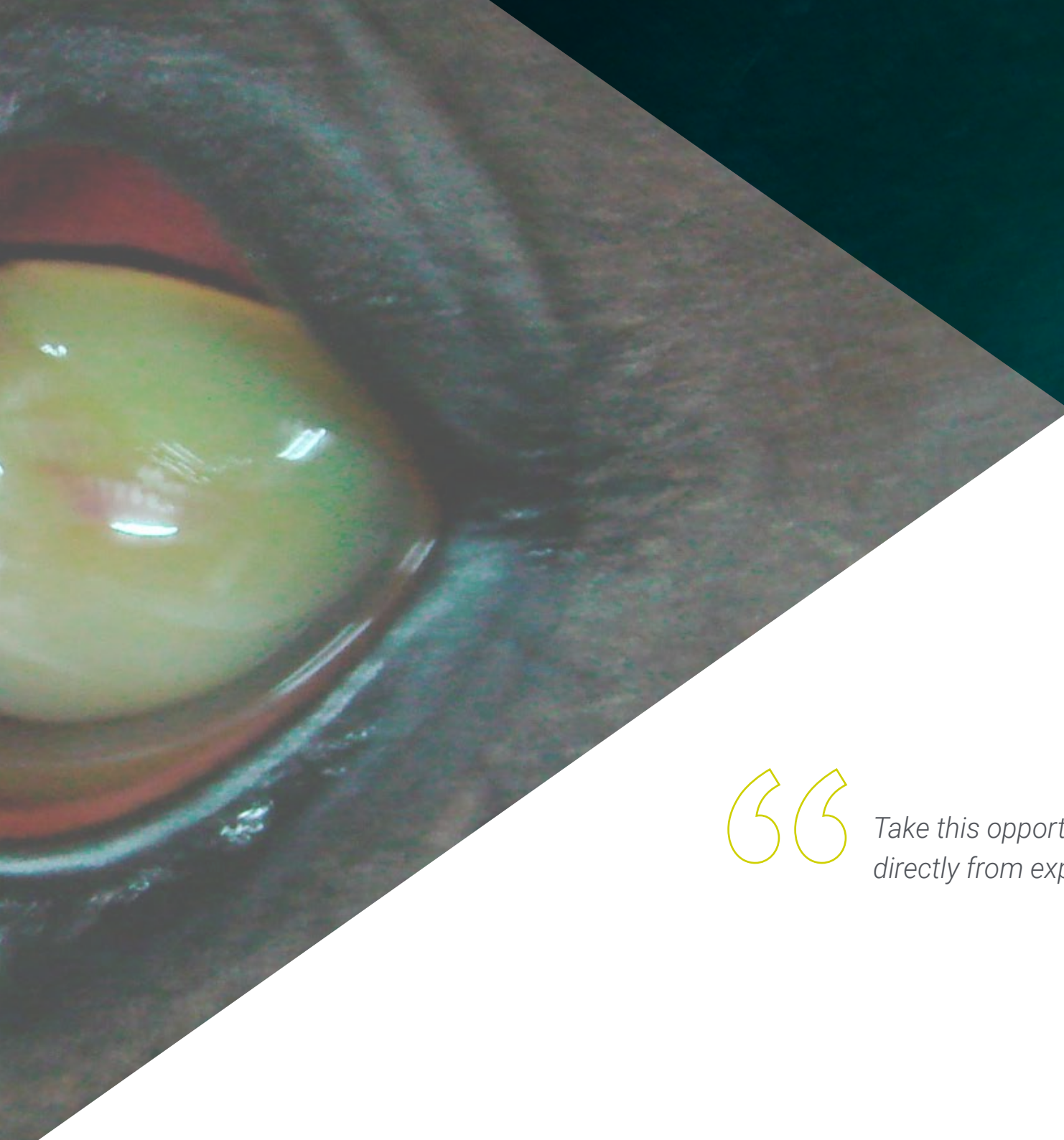


# 03

## Course Management

This program puts at your disposal a cadre of experts in veterinary ophthalmology and online teaching, with which you will acquire solid knowledge and skills in crystalline lens surgery. To this end, the program has a highly qualified team with extensive experience in the sector, who will offer the best possible resources to students, so that they can develop their skills during the course. This way, veterinarians will have all that is required to specialize at an international level in a booming sector that will catapult them to professional success.





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*Take this opportunity to learn  
directly from experts in the sector”*



## International Guest Director

Dr. Caryn Plummer is a true international reference in the field of Veterinary Medicine. Her research interests include corneal wound healing, glaucoma and other aspects of clinical ophthalmology in animals. She has also developed different models of diseases that afflict the eyesight of pets.

The lectures of this expert are widely recognized and expected in the academic framework, developing many of these in the United States, the University of Copenhagen and other parts of the world. She is also a member of the School of Veterinary Medicine at the University of Florida.

Other lines in which this expert has completed her professional development are Pharmacology and the use of medical devices through administration and ocular penetration. In the same way, she has deepened her knowledge in Equine Corneal Disease, Primary Open Angle Glaucoma in the Dog and other immune-mediated pathologies. In turn, Plummer has ventured into the application of new surgical techniques for the healing of corneal wounds, facial reconstruction of animal eyelids and the prolapse of nictitating glands. On these topics he has published a large number of articles in leading journals such as Veterinary ophthalmology and American journal of veterinary research.

Dr. Plummer's professional development has also been intensive and regular. Her specialization in Veterinary Ophthalmology was developed at the University of Florida. She also completed her advanced education in Small Animal Medicine and Surgery at Michigan State University.

On the other hand, this scientist has received several awards, among them the Clinical Researcher of the Year Award, granted by the Florida Veterinary Medical Association. She is also the author of Gelatt's classic textbook Veterinary Ophthalmology and an associate editor.



## Dr. Plummer, Caryn

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- Research Fellow in Veterinary Ophthalmology at the University of Florida
- Veterinary Ophthalmologist specialized in Glaucoma and Corneal Disease in Small Animals.
- Founder and Secretary/Treasurer of the International Consortium for Equine Ophthalmology
- Treasurer of the Consortium for Animal Vision Foundation
- Author of the classic Gelatt textbook Veterinary Ophthalmology
- Diplomate of the American College of Veterinary Ophthalmology
- Residency in Comparative Ophthalmology at the University of Florida
- Practical Instruction in Veterinary Medicine at the University of Michigan
- BA degree from Yale University
- Member of the Florida Veterinary Medical Association



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

## Management



### Dr. Fernández Más, Uxue

- Veterinary Ophthalmology in the IVO
- Responsible for Ophthalmology at Vidavet
- Bachelor's Degree in Veterinary from the University of Zaragoza
- Postgraduate in Ophthalmology Veterinary Medicine, Autonomous University of Barcelona
- Lecturer in Introductory Courses in Veterinary Ophthalmology for the Vidavet group
- Member of SEOVET and AVEPA Ophthalmology group
- Presentations at SEOVET, ECVO and GTA of AVEPA Congresses
- Junior Resident at Oftalvet Mexico



## Professors

### **Dr. Torres Caballero, Maria Dolores**

- ◆ Head of Ophthalmology Service in several veterinary hospitals, Barcelona
- ◆ Head of Ophthalmology Service, Veterinary Hospital Ars Veterinaria
- ◆ Degree in Veterinary Medicine from the University of Córdoba
- ◆ Experimental Microsurgery University Diploma, Paris VII
- ◆ Course of Advanced Studies in Veterinary Ophthalmology, Toulouse, France
- ◆ Teaching in veterinary ophthalmology specialization courses
- ◆ Presentation of training courses for general veterinarians in different locations in the Iberian Peninsula



# 04

## Structure and Content

Designed for fast and comprehensive learning, this program offers you the most complete and innovative content compendium in the online market. After enrolling in this program, students will be provided with multimedia materials and will gain a practical and theoretical insight that will help them learn everything they need to become successful veterinary ophthalmologists. A unique academic opportunity based on the best teaching methodology that will elevate professionals to the top of their careers.







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*A learning pathway of maximum interest for veterinarians who wish to enhance their care and professional competitiveness”*



## Module 1. Crystalline Lens Diseases and Surgery

- 1.1. Embryology and Anatomy
  - 1.1.1. Embryology
  - 1.1.2. Anatomy
- 1.2. Crystalline Lens Exploration
  - 1.2.1. Crystalline Lens Exploration
  - 1.2.2. Advanced Examination
- 1.3. Congenital Alterations
  - 1.3.1. Aphakia
  - 1.3.2. Coloboma
  - 1.3.3. Microphakia
  - 1.3.4. Lenticone
  - 1.3.5. PHPV/TVL
  - 1.3.6. Cataracts
- 1.4. Acquired Disorders
  - 1.4.1. Cataracts, Classification
  - 1.4.2. Characterization, Location
  - 1.4.3. Age
    - 1.4.3.1. Congenital
    - 1.4.3.2. Hereditary
    - 1.4.3.3. Aged Related
  - 1.4.4. Primary vs. Secondary
- 1.5. Metabolic and Systemic Cataracts
  - 1.5.1. Ions
  - 1.5.2. Diabetes
  - 1.5.3. Galactosemia
  - 1.5.4. Infectious Diseases
- 1.6. Metabolic and Systemic Cataract Treatment
  - 1.6.1. Doctor
  - 1.6.2. Surgical
- 1.7. Visual Alterations and Untreated Cataract Sequelae
  - 1.7.1. Visual Alterations
  - 1.7.2. Untreated Cataract Sequelae
    - 1.7.2.1. Iris Hyperpigmentation
    - 1.7.2.2. Other Sequelae







- 1.8. Dislocation
  - 1.8.1. Primary Dislocation
  - 1.8.2. Secondary Dislocation
- 1.9. Cataract Surgery
  - 1.9.1. Patient Selection
  - 1.9.2. Complementary Tests
    - 1.9.2.1. Ultrasound
    - 1.9.2.2. Gonioscopy
    - 1.9.2.3. ERG
  - 1.9.3. Complications
    - 1.9.3.1. Pre-Surgery
    - 1.9.3.2. Intra-Operative
    - 1.9.3.3. Post-Operatives
  - 1.9.4. Patient Preparation
  - 1.9.5. Equipment
  - 1.9.6. Surgery
- 1.10. Lens Luxation Surgery
  - 1.10.1. Patient Selection
  - 1.10.2. Patient Preparation
  - 1.10.3. Intraoperative complications
  - 1.10.4. Techniques



*The most compatible and highest-quality  
Postgraduate Certificate in veterinary  
ophthalmology today"*

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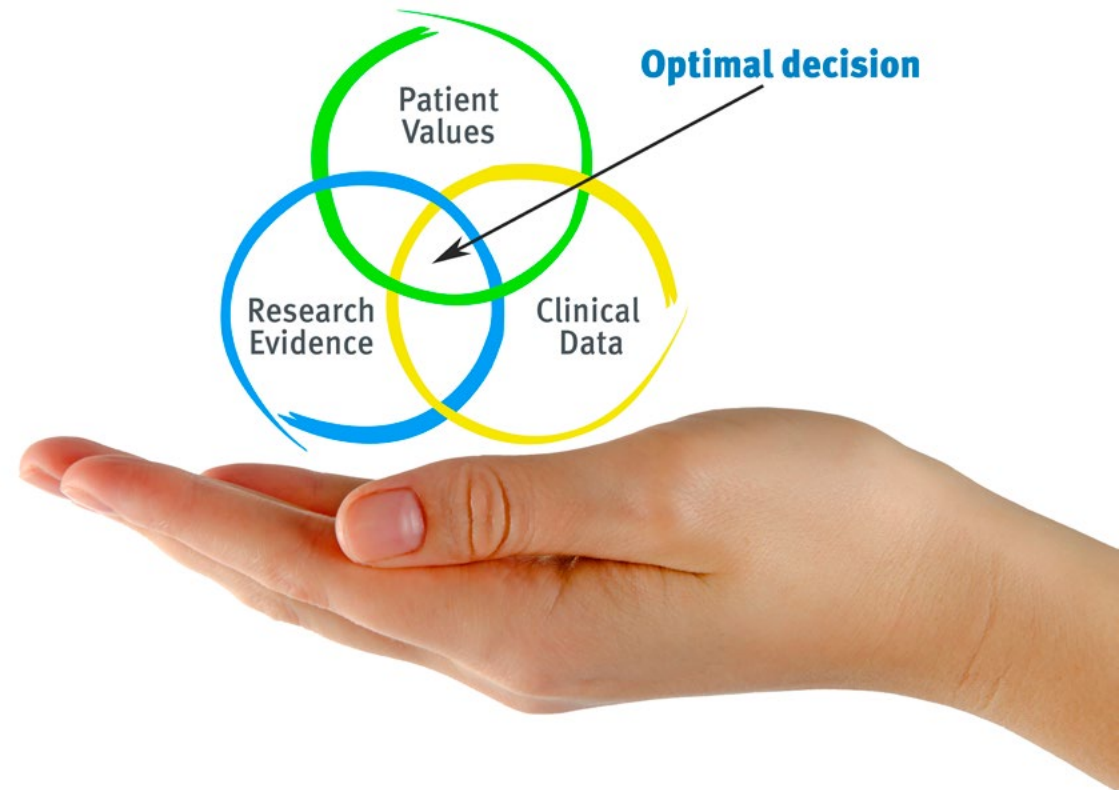
*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*



### At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, 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, in an attempt to recreate the actual conditions in a veterinarian'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. Veterinarians who follow this method not only manage to assimilate concepts, but also develop their mental capacity through exercises to evaluate real situations and knowledge application
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. The feeling that the effort invested is effective becomes a very important motivation for veterinarians, which translates into a greater interest in learning and an increase in the 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.

*Veterinarians 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 65,000 veterinarians have been trained with unprecedented success in all clinical specialties, regardless of the surgical load. Our teaching method is developed in a highly demanding environment, where the students have a high socio-economic profile and an average age of 43.5 years.

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



#### Latest Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current and procedures of veterinary 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

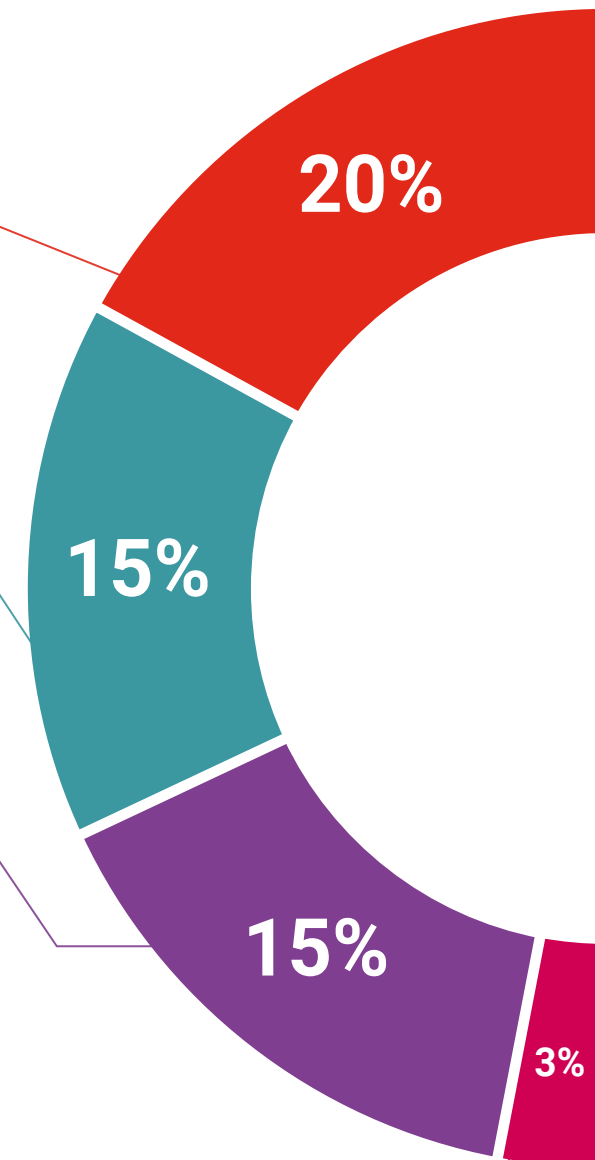
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

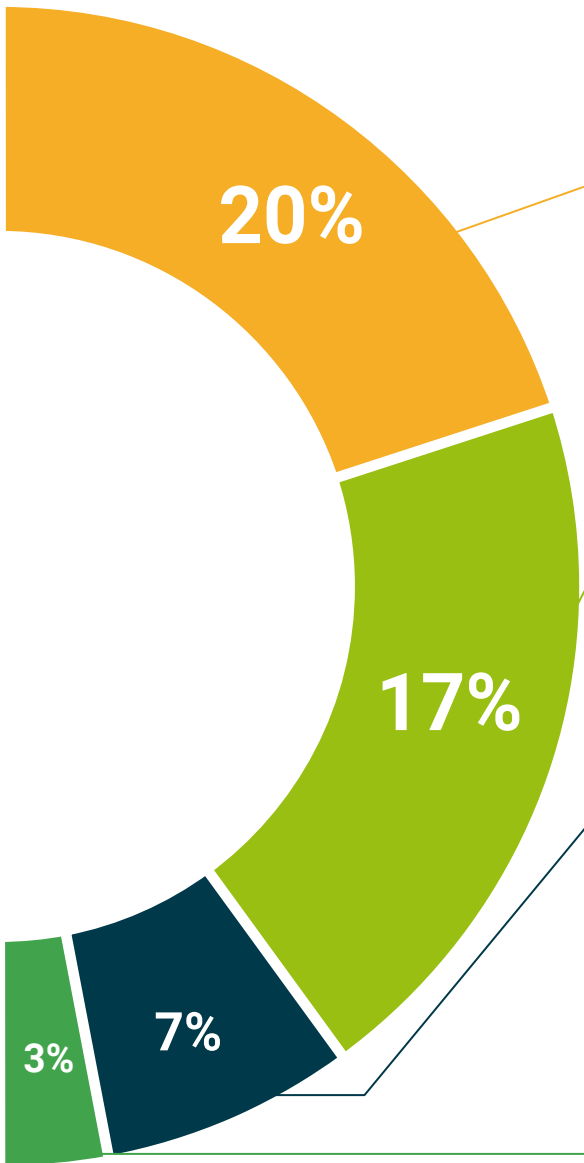


#### Additional Reading

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 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.



06

# Certificate

The Postgraduate Certificate in Crystalline Lens Diseases and Surgery in Small Animals guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate 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 Certificate in Crystalline Lens Diseases and Surgery in Small Animals** contains the most complete and up-to-date scientific program on the market.

After students has 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 Crystalline Lens Diseases and Surgery in Small Animals**

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.

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



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