

# Postgraduate Certificate Corneal Diseases and Surgery in Small Animals





## Postgraduate Certificate Corneal Diseases and Surgery in Small Animals

- » Modality: **Online**
- » Duration: **6 weeks**
- » Certificate: **TECH Global University**
- » Credits: **6 ECTS**
- » Schedule: **at your own pace**
- » Exams: **online**

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

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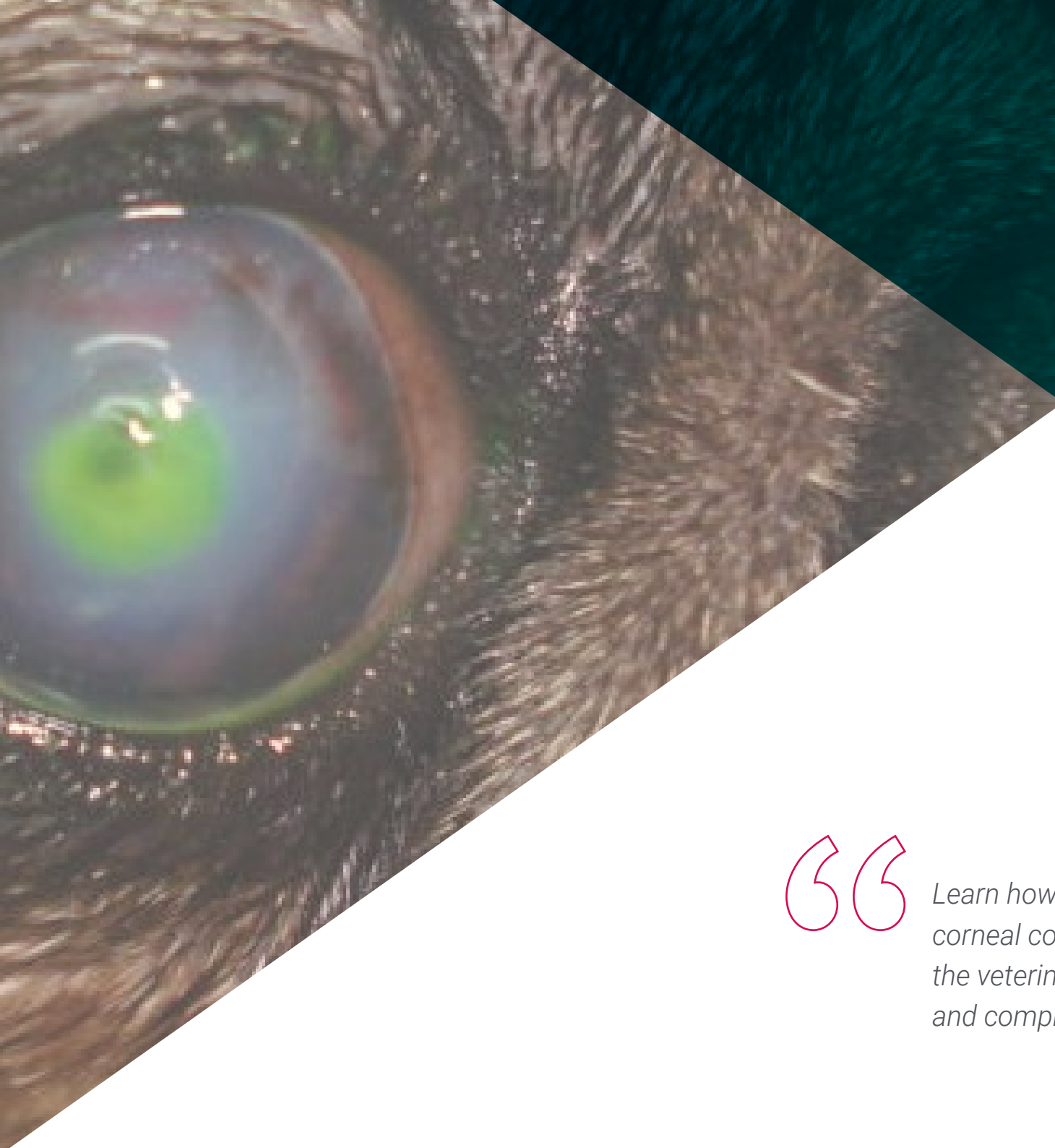
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# 01

# Introduction

Offering adequate responses to ophthalmologic conditions of the cornea requires ongoing updating and a very broad knowledge on the part of the veterinarian, in order to ensure the quality of the intervention. This program compiles the latest knowledge and techniques developed in the field, which have been efficiently structured to give students a realistic and practical boost for the type of intervention involved. With the safety and quality of TECH.





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*Learn how to accurately and safely treat corneal conditions in patients who come to the veterinary practice, with this exceptional and comprehensive Postgraduate Certificate"*

The cornea and sclera form part of the fibrous tunica of the eyeball, the outermost part of the eye. The incidence of corneal alterations is very high in small animals. Scleral pathology is much less frequent, but no less important.

In this program, before beginning to detail the different pathologies that the cornea and sclera can suffer, students will look at how these structures naturally repair themselves when tissue damage is present. The cornea is one of the most exposed and visible areas, in which any alteration can be detected very quickly. Each corneal component heals to a different degree, at a different speed and through different mechanisms. Understanding these differences will help us to identify whether repair is occurring abnormally, and allow us to perform early interventions and improve the prognosis of our patients.

During the course this Postgraduate Certificate, key aspects will be taught that will allow students to approach one of the most complex phases of ophthalmologic examination: identification of changes in color, edges and visual "texture", as well as their association to each corneal pathology and their clinical relevance.

The various corneal and scleral pathologies, clinical signs, as well as the diagnostic protocol, updated medical and/or surgical treatment and prognosis of all of these conditions will also be described.

The main objective is to improve the visual prognosis of affected animals, as the complications associated with corneal and scleral lesions can lead to loss of vision due to extensive scarring, severe uveitis sequelae, corneal perforation, or phthisis bulbi, among others. For this reason, it is essential to be able to diagnose and establish early treatment. Monitoring the evolution during the first few days after diagnosis will prevent complications or allow them to be treated before they seriously affect the eye.

This **Postgraduate Certificate in Corneal 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 those 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



*The most advanced program in corneal pathology treatment techniques and protocols, which will allow the student to perform a safe and efficient approach to ophthalmologic conditions"*

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*An intensive and practical study of corneal pathologies in small animals based on the most advanced knowledge”*

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.

*With the efficiency of a study system created for online teaching, this Postgraduate Certificate is the best option to boost your professional growth.*

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



# 02

# Objectives

This program will provide students with specialized knowledge of veterinary ophthalmology. TECH has designed the most comprehensive and up to date academic program on the market. After completing the 180 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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*TECH offers you an intensive and comprehensive growth program that will put your skills at the forefront of ophthalmology intervention"*



## General Objectives

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- Develop a systematic diagnostic protocol for corneal and scleral pathologies
- Analyze pathological changes in the cornea and sclera, as well as their clinical relevance
- Determine differential diagnoses for corneal and scleral pathologies
- Establish the medical and/or surgical therapeutic possibilities and prognosis for each corneal and scleral pathology



*The latest examination and diagnostic techniques and processes used in Small Animal Ophthalmology, through an exceptional Postgraduate Certificate"*





## Specific Objectives

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- ♦ Analyze physiological corneal repair mechanisms
- ♦ Accurately recognize changes in color, edges and visual "texture" characteristic of each corneal pathologic response
- ♦ Classify and categorize corneal ulcers
- ♦ Develop general and specific treatment principles for each type of corneal ulcer
- ♦ Describe the different corneal surgical techniques and evaluate their advantages and disadvantages
- ♦ Compile and study the most common non-ulcerative corneal pathologies in dogs and cats
- ♦ Identify the various corneal manifestations of systemic diseases
- ♦ Present the different neoplasms located in the cornea
- ♦ Study the pathologies that can affect the sclera and their treatment



# 03

# Course Management

TECH provides you with professionals in veterinary ophthalmology and online teaching, so that you can acquire solid knowledge in this specialty. For this, the program has a highly qualified team with extensive experience in the field, who will offer the best tools for students to develop their skills during the program. 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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*Study with professionals of recognized trajectory and take advantage of their close and adjusted vision of the reality of this 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. Gómez Guajardo, Magda Berenice

- ♦ Professional veterinarian at the Eye Clinic Veterinary Hospital
- ♦ Bachelor's Degree in Veterinary Medicine Zootechnician, Autonomous University of Nuevo León
- ♦ Postgraduate Certificate, Latin American College of Veterinary Ophthalmology
- ♦ Advanced Corneal Surgical Techniques and Instrumentation, 43rd Annual Scientific Meeting of The American College of Veterinary Ophthalmology
- ♦ Ophthalmology Refresher Course Glaucoma, Challenges and Singularities





04

# Structure and Content

The most comprehensive and innovative content compendium in the academic market has been designed for this Postgraduate Certificate. 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.





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

## Module 1. Corneal Diseases and Surgery

- 1.1. Physiology of Cornea
  - 1.1.1. Clarity Corneal Transparency
  - 1.1.2. Corneal Scarring
    - 1.1.2.1. Proteases and Protease Inhibitors in the Corneal Healing Process
    - 1.1.2.2. Proteinase
  - 1.1.3. Corneal Epithelial, Endothelial pigmentation
  - 1.1.4. Corneal Edema, Corneal Vascularization
- 1.2. Congenital and Developmental Diseases
  - 1.2.1. Microcornea Megalocornea
  - 1.2.2. Dermoid Cysts
  - 1.2.3. Congenital Opacities Persistent Pupillary Membranes
  - 1.2.4. Coloboma Staphyloma
- 1.3. Inflammatory Keratopathies
  - 1.3.1. Ulcerative Keratitis
  - 1.3.2. Bacterial Keratitis
  - 1.3.3. Viral Keratitis
  - 1.3.4. Mycotic Keratitis
- 1.4. Corneal Ulcers
  - 1.4.1. Ulcer Depth Identification
  - 1.4.2. Chronic Spontaneous Chronic Spontaneous Epithelial Defects (SCCEDs)
- 1.5. Corneal Surgery
  - 1.5.1. Corneal Adhesives
  - 1.5.2. Conjunctival Tissue
  - 1.5.3. Use of Biological Membranes
  - 1.5.4. Keratoplasties
- 1.6. Non-Ulcerative Keratitis
  - 1.6.1. Pigmentary Keratitis
  - 1.6.2. Superficial Keratitis
  - 1.6.3. Keratitis Punctata
  - 1.6.4. Marginal Keratitis
  - 1.6.5. Keratitis Punctata
  - 1.6.6. Neurogenic Keratitis



- 1.7. Non-Inflammatory Keratopathies
  - 1.7.1. Corneal Dystrophies
  - 1.7.2. Lipid Keratopathy
  - 1.7.3. Corneal Degeneration
  - 1.7.4. Endothelial Dystrophy
  - 1.7.5. Florida Keratopathy
  - 1.7.6. Surgery for Keratopathies
- 1.8. Corneal Neoplasms
  - 1.8.1. Neoplasms in Dogs
  - 1.8.2. Neoplasms in Cats
- 1.9. Sclera
  - 1.9.1. Structure and Function
  - 1.9.2. Inflammatory Diseases
    - 1.9.2.1. Episcleritis
      - 1.9.2.1.1. Nodular Granulomatous
  - 1.9.3. Scleritis
    - 1.9.3.1. Non-Necrotizing
    - 1.9.3.2. Necrotizing
  - 1.9.4. Trauma Laceration
- 1.10. *Cross Linking*, Cryotherapy
  - 1.10.1. *Cross linking* and Cryotherapy
  - 1.10.2. Keratopathies Treated with *Cross Linking*
  - 1.10.3. Keratopathies Treated with Cryotherapy



*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.

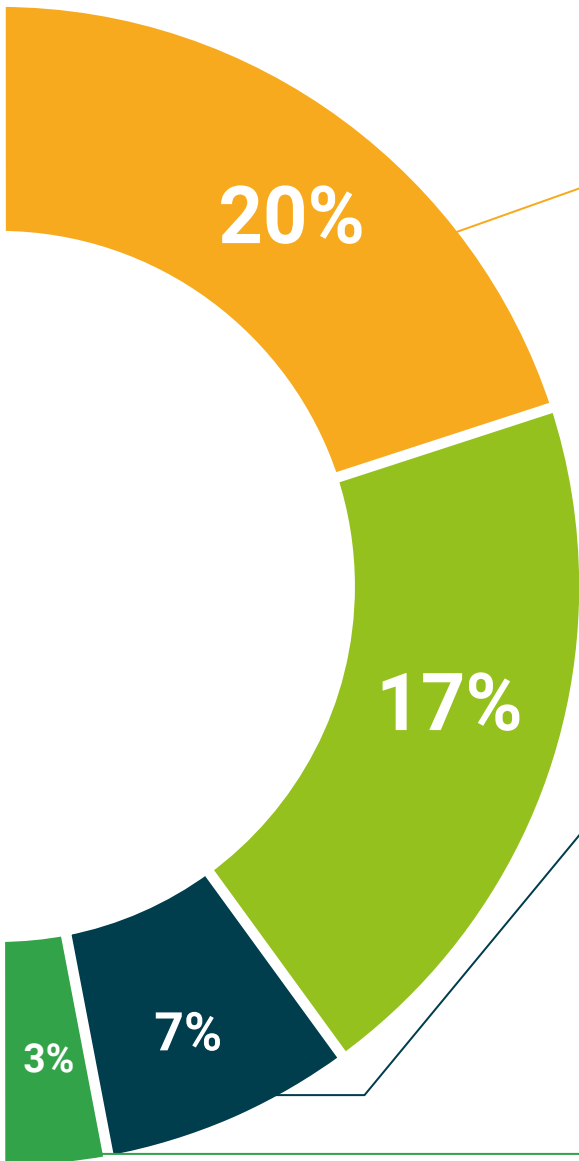
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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 Corneal 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 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 Corneal Diseases and Surgery in Small Animals** 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 Corneal Diseases and Surgery in Small Animals**

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.





## Postgraduate Certificate

### Corneal Diseases and Surgery in Small Animals

- » Modality: **Online**
- » Duration: **6 weeks**
- » Certificate: **TECH Global University**
- » Credits: **6 ECTS**
- » Schedule: **at your own pace**
- » Exams: **online**

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