

# Postgraduate Certificate

## Diseases and Surgery of the Cornea and Sclera in Equids





## Postgraduate Certificate Diseases and Surgery of the Cornea and Sclera in Equids

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

Website: [www.techtute.com/us/veterinary-medicine/postgraduate-certificate/diseases-surgery-cornea-sclera-equids](http://www.techtute.com/us/veterinary-medicine/postgraduate-certificate/diseases-surgery-cornea-sclera-equids)

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# 01

# Introduction to the Program

Diseases and surgeries related to the cornea and sclera in equids represent a crucial area within specialized veterinary medicine. According to studies conducted by the American College of Veterinary Ophthalmologists (ACVO), corneal pathologies are one of the main causes of ophthalmologic consultation in equids, highlighting their impact on the quality of life and functionality of patients. This denotes the need for professionals prepared in their clinical and surgical management, therefore, TECH has established this innovative program, which offers specialized training, combining advanced knowledge with a practical approach. Designed by experts, this 100% online academic pathway will provide the necessary tools to identify, treat and prevent these pathologies.





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*Entering this postgraduate program means investing in a high-impact career, with professional opportunities in clinics, veterinary hospitals and specialized research projects. Join TECH now!”*

Specialized knowledge in Corneal and Scleral Diseases and Surgery is indispensable for veterinarians working with equines. In fact, the ability to correctly diagnose these conditions, along with the mastery of advanced surgical techniques, not only allows for effective treatment, but also prevents sequelae that could impact the overall health and performance of the animals. Consequently, training in this field is therefore essential to provide quality eye care, ensuring that horses can continue to perform their functions optimally, whether in competition, at work or in their daily lives.

Against this backdrop, TECH offers this Postgraduate Certificate in Diseases and Surgery of the Cornea and Sclera in Equids, which will equip professionals with the necessary tools to address complex ocular pathologies in horses. Through a comprehensive approach, specialists will acquire in-depth knowledge of the most common corneal and scleral conditions, as well as the most advanced surgical techniques used to treat them effectively. In this way, they will develop both technical and clinical aspects, as well as critical analysis skills, which will enable them to make well-informed decisions in their daily practice.

In the long term, this specialized knowledge represents a key advantage in the job market, as veterinarians with skills in equine eye surgery are increasingly in demand in specialized clinics, hospitals and rehabilitation centers. Likewise, this program opens doors to opportunities in research and teaching, expanding the possibilities for professional growth within the field of veterinary ophthalmology.

The 100% online modality of this program will be complemented by the Relearning methodology, designed to maximize learning through an innovative and practical approach. This pedagogical model is based on the strategic reiteration of key concepts throughout the program, allowing graduates to internalize the knowledge in a more effective and natural way, without relying exclusively on traditional memorization.

This **Postgraduate Certificate in Diseases and Surgery of the Cornea and Sclera in Equids** 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 with a deep mastery of Diseases and Surgery of the Cornea and Sclera in Equids
- ♦ The graphic, schematic and eminently practical content of the book provides scientific and practical information on those disciplines that are essential for professional practice
- ♦ Practical exercises where the process of 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



*Through flexible online content and state-of-the-art interactive material, TECH will optimize your skills in a variety of areas to broaden your scope and career opportunities"*

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*TECH will propel you to transform equine ocular wellness by becoming an expert in Corneal and Scleral Disease and Surgery. Enroll now and boost your professional work!”*

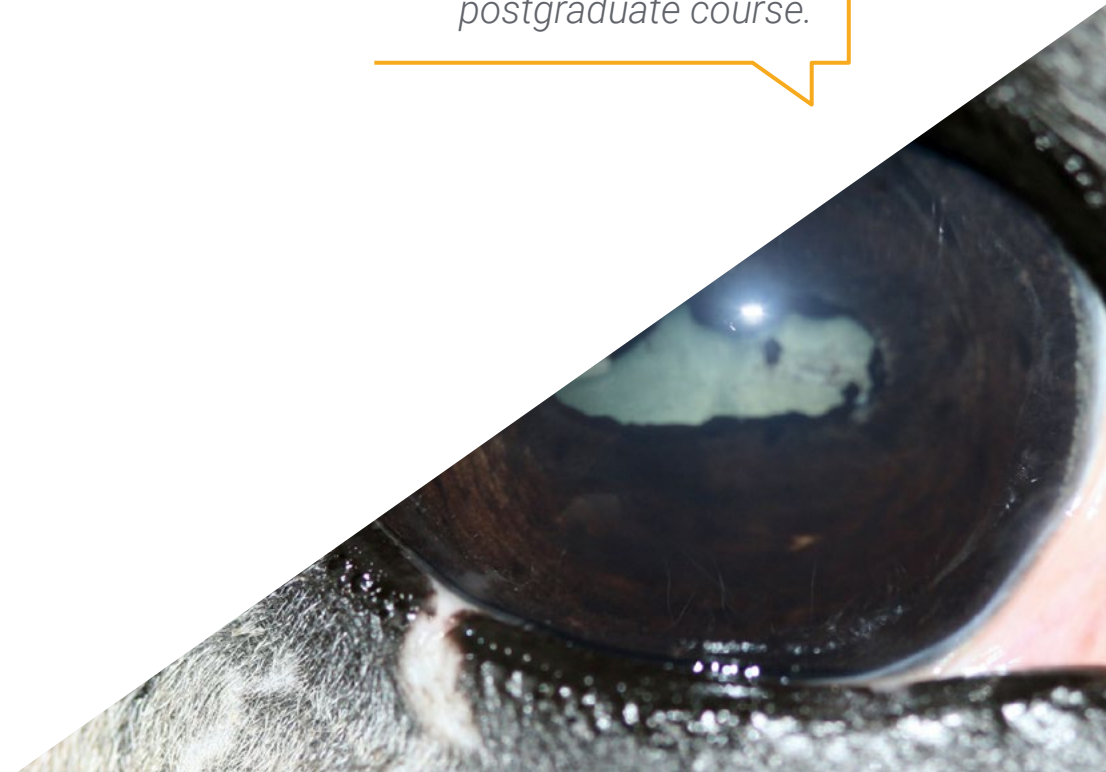
The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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 immersive education programmed to learn 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 during the course. For this purpose, students will be assisted by an innovative interactive video system created by renowned experts.

*You will master eye conditions in horses! Get ready to provide advanced care with this Postgraduate Certificate and make a difference in animal health.*

*Want to take your veterinary career to the next level? Specialize in equine eye surgery and open new professional doors with this highly specialized postgraduate course.*





02

# Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs, available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it has a huge faculty of more than 6,000 professors of the highest international prestige.





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*Study at the largest online university in the world and ensure your professional success. The future begins at TECH”*

**The world's best online university, according to FORBES**

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

**The best top international faculty**

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

**The world's largest online university**

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.



**The most complete syllabuses on the university scene**

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

**A unique learning method**

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

#### The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

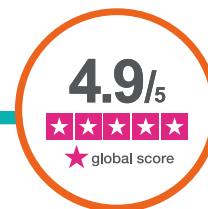
#### Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.



#### Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.



#### The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.





# 03

# Syllabus

Throughout the curriculum, professionals will learn about the anatomy and physiology of the cornea and sclera in equids, establishing a knowledge base to understand how these organs function and how various diseases can alter them. In addition, they will address common corneal diseases such as Ulcers or Keratitis and how to diagnose and treat these conditions using advanced technologies or specialized techniques. Finally, corneal and scleral surgery will be studied in depth, encouraging graduates to handle complex situations such as corneal grafts, transplants or surgical interventions to correct perforations.



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*Thanks to this postgraduate course, you will have the knowledge and skills necessary to face the clinical and surgical challenges related to ocular diseases in equids”*



## Module 1. Diseases and Surgery of the Cornea and Sclera in Equids

- 1.1. Histology of the Cornea in Equids
  - 1.1.1. Conformation
  - 1.1.2. Histological Structure
  - 1.1.3. Scleral-Corneal Limbus
  - 1.1.4. Vascularization and Innervation
- 1.2. Physiology of the Cornea in Equids
  - 1.2.1. Biochemical Composition
  - 1.2.2. Corneal Transparency
  - 1.2.3. Nutrition
  - 1.2.4. Epithelial, Stromal and Endothelial Scarring
  - 1.2.5. Practical Considerations
- 1.3. Sclera and Limbus in Equids
  - 1.3.1. Examination of the Sclera
  - 1.3.2. Malformations: Scleral Coloboma
  - 1.3.3. Scleral Inflammation and Lacerations
  - 1.3.4. Thinning and Sclerectasia of the Sclera
  - 1.3.5. Neoplasms of the Sclera and Limbus
  - 1.3.6. Obitary Fat Prolapse and Parasitic Diseases of Scleral Localization
- 1.4. Pharmacological Principles of Ocular Therapy in Equids
  - 1.4.1. Routes of Administration
  - 1.4.2. Penetration through the Cornea
  - 1.4.3. Penetration through the Limbus-Sclera
  - 1.4.4. Periocular or Intraocular Injections
  - 1.4.5. Anti-Infectives, Anti-Inflammatories and Immunomodulators
- 1.5. Semiology of Corneal Modifications in Equids except for Ulcers
  - 1.5.1. Semiology of Corneal Modifications in Equids
  - 1.5.2. Functional Manifestations
  - 1.5.3. Physical Modifications
    - 1.5.3.1. Dimensional and Curvature Anomalies
    - 1.5.3.2. Corneal Edema
    - 1.5.3.3. Corneal Neovascularization
    - 1.5.3.4. Corneal Pigmentation
    - 1.5.3.5. Other Alterations of Corneal Transparency







- 1.6. Conditions of the Cornea of the Horse: Congenital Conditions, Non-Infectious Ulcerative Keratitis and Corneal Lesions
  - 1.6.1. Congenital Conditions
  - 1.6.2. Non-Infectious Ulcerative Keratitis
  - 1.6.3. Corneal Lesions
- 1.7. Conditions of the Cornea of the Horse: Bacterial, Viral, and Immune-Mediated Ulcerative Keratitis and Stromal Abscesses
  - 1.7.1. Bacterial and Mycotic Ulcerative Keratitis
  - 1.7.2. Stromal Abscesses
  - 1.7.3. Viral Keratitis
  - 1.7.4. Immune-Mediated Keratitis
- 1.8. Conditions of the Cornea of the Horse: Parasitic Keratitis, Corneal Degenerations and Corneal Neoplasms
  - 1.8.1. Parasitic Keratitis
  - 1.8.2. Corneal Degeneration
  - 1.8.3. Corneal Neoplasms
- 1.9. Therapeutic Strategy for Corneal Ulcer in Equids
  - 1.9.1. Acute Epithelial Ulcer
  - 1.9.2. Chronic or Recurrent Epithelial Ulcer
  - 1.9.3. Stromal Ulcer
  - 1.9.4. Pre-Descemetic Ulcer or Descemetocoele and Corneal Perforation
- 1.10. Surgical Treatment of Corneal Ulcers in Equids
  - 1.10.1. Surgical Aspects of Etiologic Treatment
  - 1.10.2. Surgical Aspects of Symptomatic Treatment
  - 1.10.3. Surgical Techniques
  - 1.10.4. Other Techniques



04

# Teaching Objectives

The main goal of this Postgraduate Certificate is to provide a complete and advanced training on the pathologies affecting the cornea and sclera, essential structures in equines. Throughout the program, veterinarians will acquire an in-depth knowledge of the anatomy, physiology and related pathological processes, which will allow them to accurately identify, diagnose and treat a wide range of conditions, from traumatic injuries to infectious or degenerative diseases. In addition, they will know specialized surgical techniques to address various conditions, including Keratitis, Corneal Ulcers and Scleral Displacements, among others.





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*You will be equipped with the necessary tools to provide an accurate diagnosis and apply effective treatments that improve the ocular health of animals and their quality of life”*





## General Objectives

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- ♦ Identify specific pathologies of the cornea and sclera in equids through detailed examinations
- ♦ Analyze the anatomy and physiology of the cornea and sclera to understand their involvement in ocular diseases
- ♦ Apply advanced diagnostic techniques to evaluate corneal and scleral conditions
- ♦ Design effective treatments to address inflammatory, infectious, or traumatic corneal diseases
- ♦ Implement precise surgical procedures to repair corneal and scleral injuries
- ♦ Interpret results of diagnostic tests, such as cytology or biopsies, to personalize treatments
- ♦ Develop preventive strategies to avoid ocular complications in equids of different ages
- ♦ Evaluate the postoperative evolution of corneal and scleral surgeries to optimize clinical outcomes







### Specific Objectives

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- ♦ Recognize main diseases affecting the cornea and sclera in equids
- ♦ Design surgical strategies to the treatment of injuries to the cornea and sclera
- ♦ Apply advanced diagnostic techniques to assess Conditions of the Ocular Surface
- ♦ Implement personalized therapeutic plans for corneal and scleral pathologies



*This TECH Postgraduate Certificate is the most complete and updated educational option in the market. Thanks to its online methodology, you will be trained at the time and place you want"*



# 05 Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.



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*TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”*



## The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

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*At TECH you will NOT have live classes  
(which you might not be able to attend)”*



### The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

“*TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want*”



## Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



## Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

*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.*





## A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



*The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule”*

### 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 assess 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.

### The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

*Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.*

*You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.*





As such, the best educational materials, thoroughly prepared, will be available in this program:



#### 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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



#### Interactive Summaries

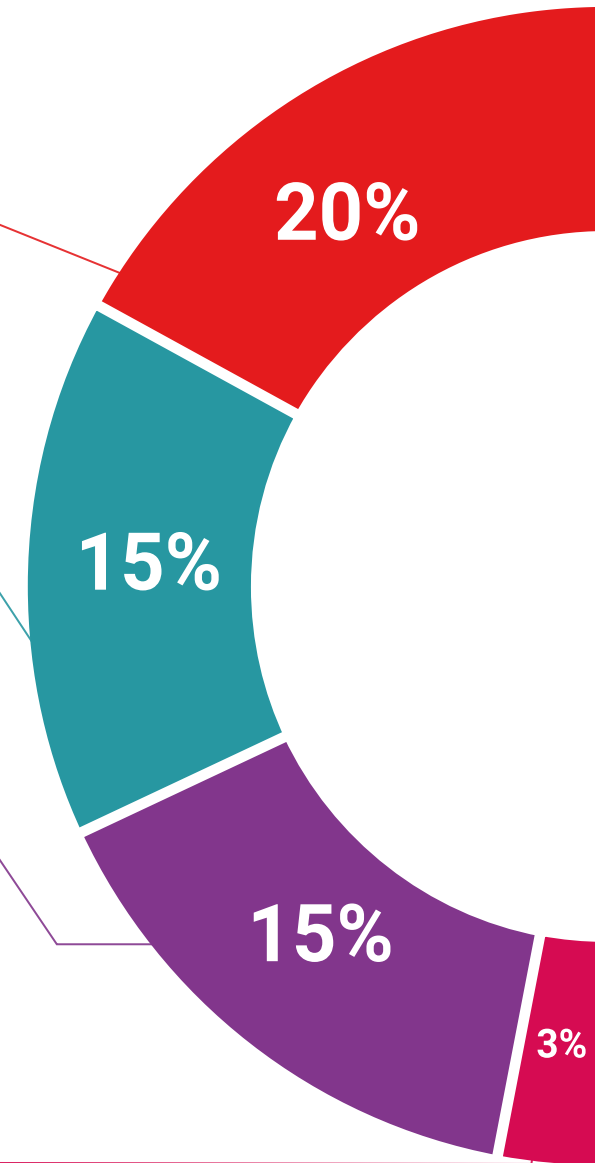
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

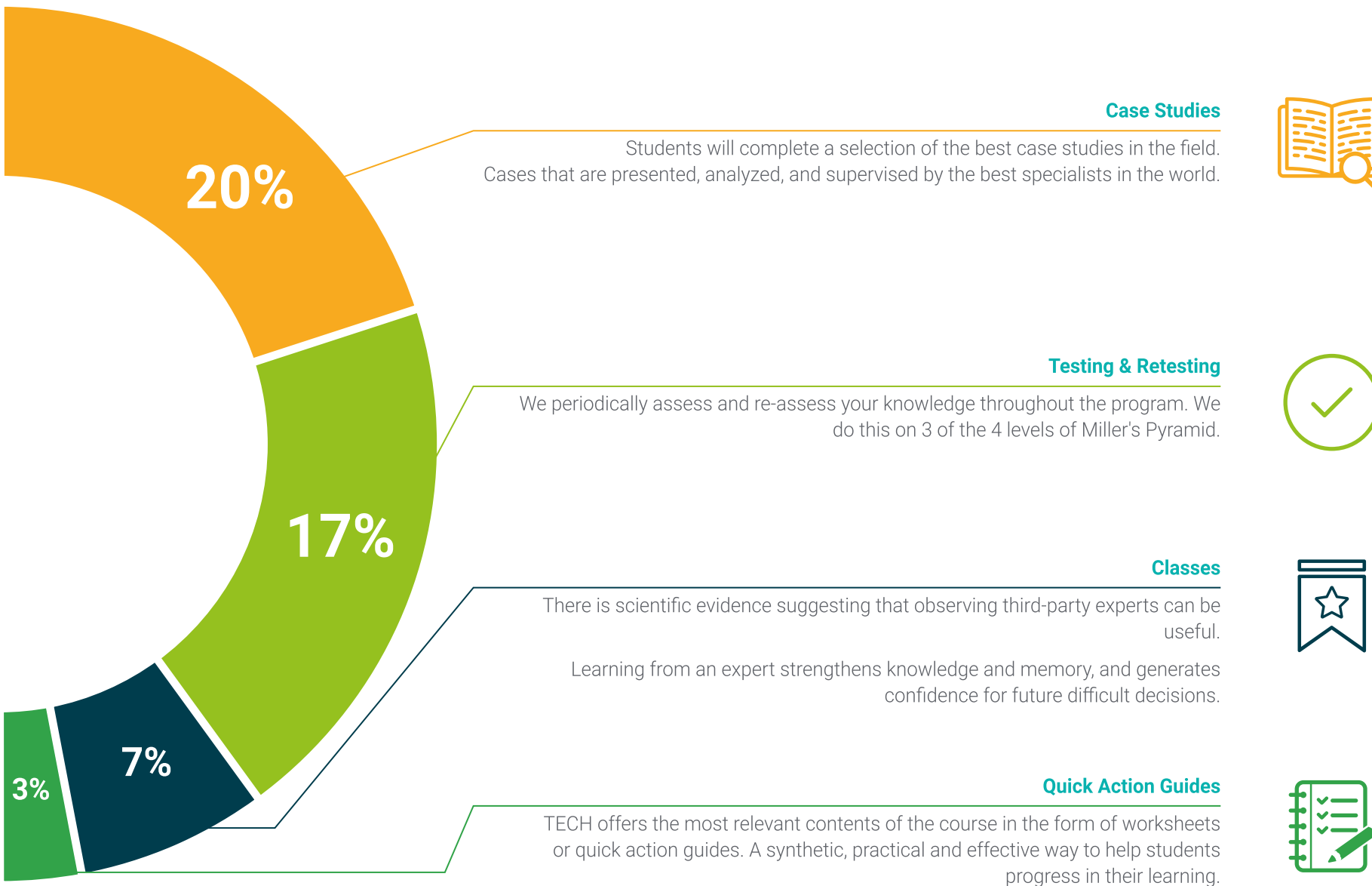
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.







# 06

## Teaching Staff

The teaching staff of this Postgraduate Certificate is composed of a team of specialists in veterinary ophthalmology. Thanks to their extensive experience in equine eye treatment and surgery, these experts not only have a high level of academic preparation, but also a vast practical experience that will allow them to provide the most innovative and effective approaches in this field. In addition, the faculty comes from prestigious international institutions and renowned veterinary hospitals, guaranteeing students quality training backed by the latest knowledge and research in corneal and scleral diseases and surgeries.





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*Thanks to the clinical expertise and their commitment to teaching, TECH faculty will push you to handle state-of-the-art surgical techniques, developing skills to successfully face related challenges”*

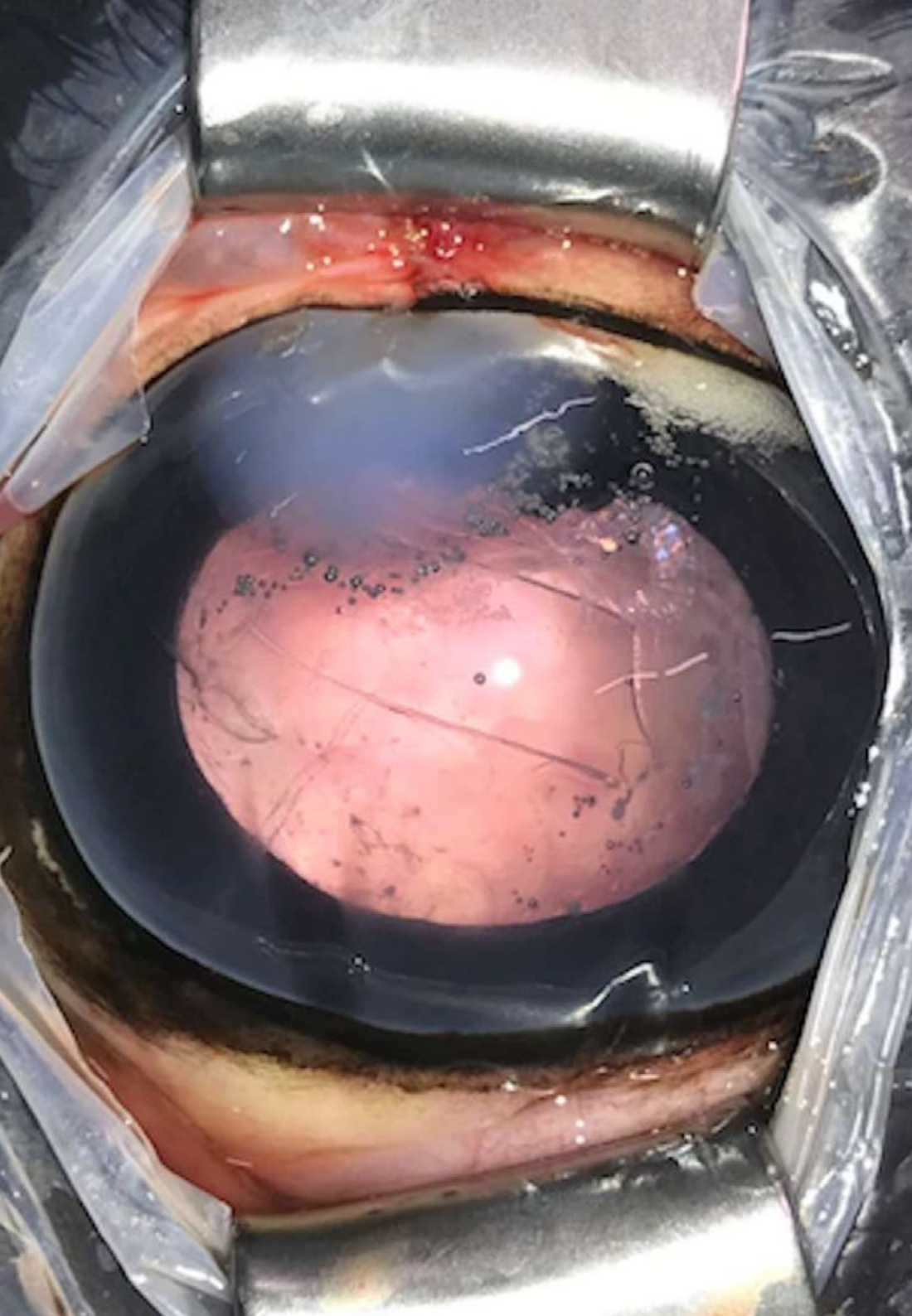


## Management



### **Dr. Arteaga Sancho, Kevin**

- Senior Ophthalmologist at CityU VMC
- Expert in Basic Sciences in Ophthalmology from the University of California
- Specialist in Veterinary Ophthalmology from the University of Barcelona
- Master's Degree in Small Animal Medicine from the University of Murcia
- Degree in Veterinary Medicine from the CEU University of Valencia



## Professors

### Dr. Jiménez Heras, Laura

- ♦ Leader of the Ophthalmology and Surgery Service at Eurocan Veterinary Center  
Specialist in Basic and Advanced Surgery by the Autonomous University of Barcelona
- ♦ Degree in Veterinary Medicine from Alfonso X El Sabio University
- ♦ Certificate of Advanced Studies (CES) in Veterinary Ophthalmology by L'École Nationale Vétérinaire de Toulouse
- ♦ In charge of the Equine Ophthalmology Specialized Consultations

“All teachers in this program accumulate extensive experience, offering you an innovative perspective on the main advances in this field of study”



# 07 Certificate

The Postgraduate Certificate in Diseases and Surgery of the Cornea and Sclera in Equids guarantees, in addition to the most accurate and up-to-date training, 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 private qualification will allow you to obtain a **Postgraduate Certificate in Diseases and Surgery of the Cornea and Sclera in Equids** 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.

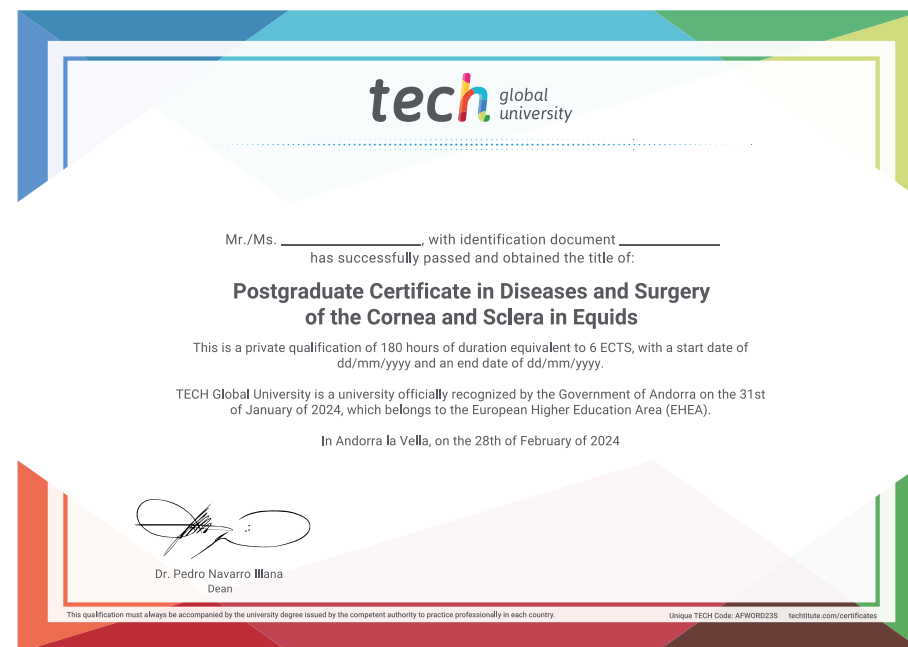
This **TECH Global University** private qualification, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Diseases and Surgery of the Cornea and Sclera in Equids**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**





## Postgraduate Certificate Diseases and Surgery of the Cornea and Sclera in Equids

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## Diseases and Surgery of the Cornea and Sclera in Equids

