

Professional Master's Degree  
Veterinary Ophthalmology  
in Small Animals





## Professional Master's Degree Veterinary Ophthalmology in Small Animals

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/veterinary-medicine/professional-master-degree/master-veterinary-ophthalmology-small-animals](http://www.techtute.com/us/veterinary-medicine/professional-master-degree/master-veterinary-ophthalmology-small-animals)

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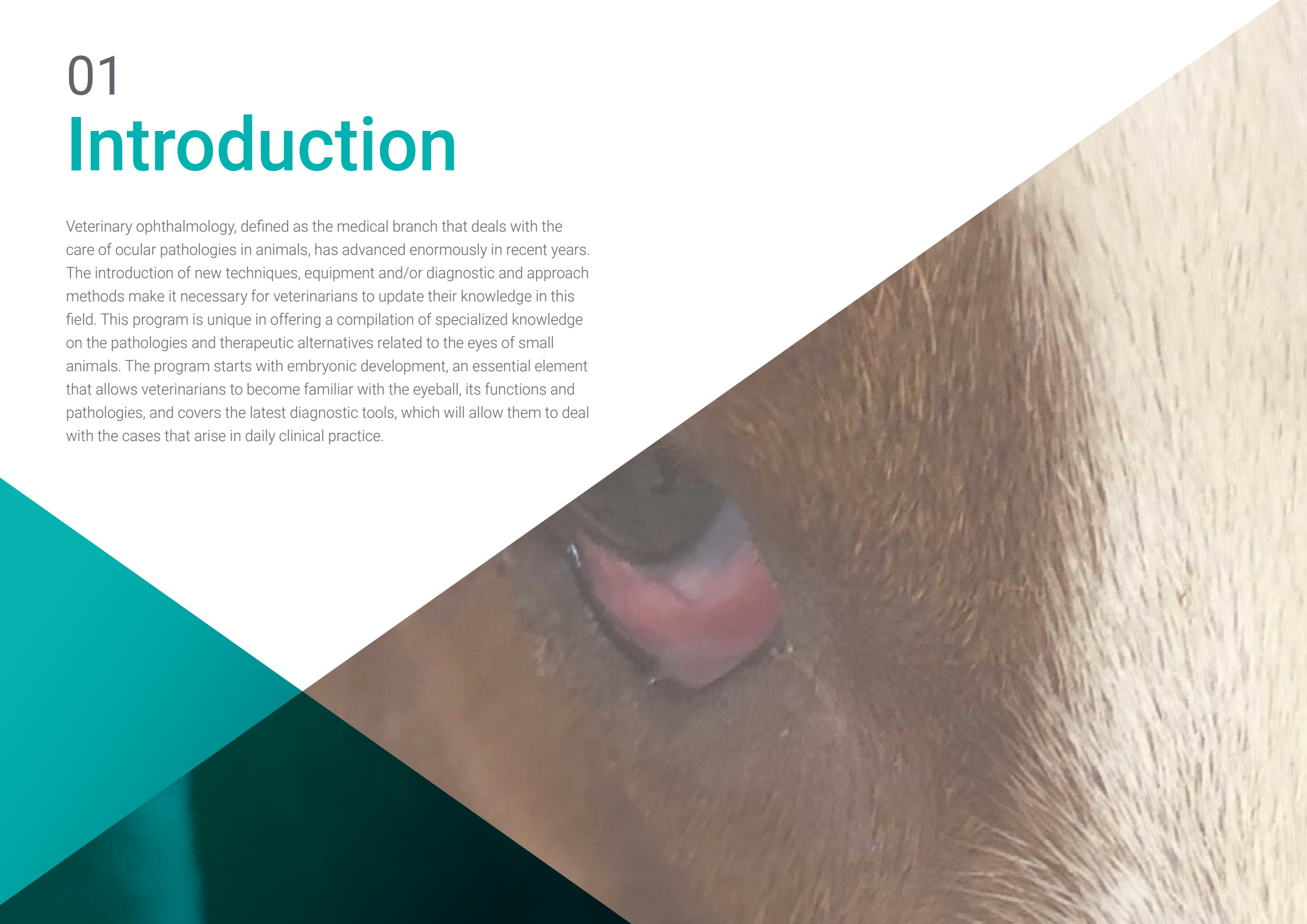
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# 01

# Introduction

Veterinary ophthalmology, defined as the medical branch that deals with the care of ocular pathologies in animals, has advanced enormously in recent years. The introduction of new techniques, equipment and/or diagnostic and approach methods make it necessary for veterinarians to update their knowledge in this field. This program is unique in offering a compilation of specialized knowledge on the pathologies and therapeutic alternatives related to the eyes of small animals. The program starts with embryonic development, an essential element that allows veterinarians to become familiar with the eyeball, its functions and pathologies, and covers the latest diagnostic tools, which will allow them to deal with the cases that arise in daily clinical practice.





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*In this Professional Master's Degree, the main pathologies that can appear in the animal eye are studied, as are the most appropriate methods of diagnosis, treatment and approach in each case"*

Veterinary ophthalmology has advanced at a rapid pace in recent decades, which has allowed specialists to solve or mitigate ocular problems that negatively affect the quality of life of animals.

The Professional Master's Degree in Veterinary Ophthalmology in Small Animals includes all the advances made in the study of ophthalmologic diseases and their treatment. It compiles and develops these aspects to provide veterinary professionals with a clear, in depth and up to date overview of Veterinary Ophthalmology in Small Animals, and thereby allows them to apply the knowledge acquired.

The topics presented in this Professional Master's Degree have been selected with the aim of offering comprehensive, specialized and advanced studies in Ophthalmology that will allow veterinary professionals to develop in depth knowledge with which to address ocular disorders in small animals, in this case, those in dogs and cats.

Although the main subject of this Professional Master's Degree is Ophthalmology as applied to dogs and cats, given that they are the species most commonly found in the veterinary clinic, Veterinary Ophthalmology in Exotic Animals also occupies an important place in the specialization.

Finally, pathological and non-pathological alterations will also be studied, with special focus on the most appropriate medical and surgical treatments according to each case. This will provide students with general knowledge on the specialty, which will in turn allow them to practice with greater success in their daily practice.

One of the problems affecting continued education is the difficulty professionals find in conciliating studies with work and personal routines. Current professional demands make it difficult to provide quality, specialized, face to face education, which is why our online format allows students to combine this updating program with their daily professional practice.

This **Professional Master's Degree in Veterinary Ophthalmology in Small Animals** contains the most complete and up to date scientific program scientific 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



*In depth study and specialization in ophthalmological conditions, as well as the possibility to learn and improve specific and advanced diagnostic protocols, will allow students to establish the most appropriate medical and/or surgical treatment for each case"*

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*Thanks to this comprehensive educational program, you will be able to provide a differential approach to ocular pathologies in small animals"*

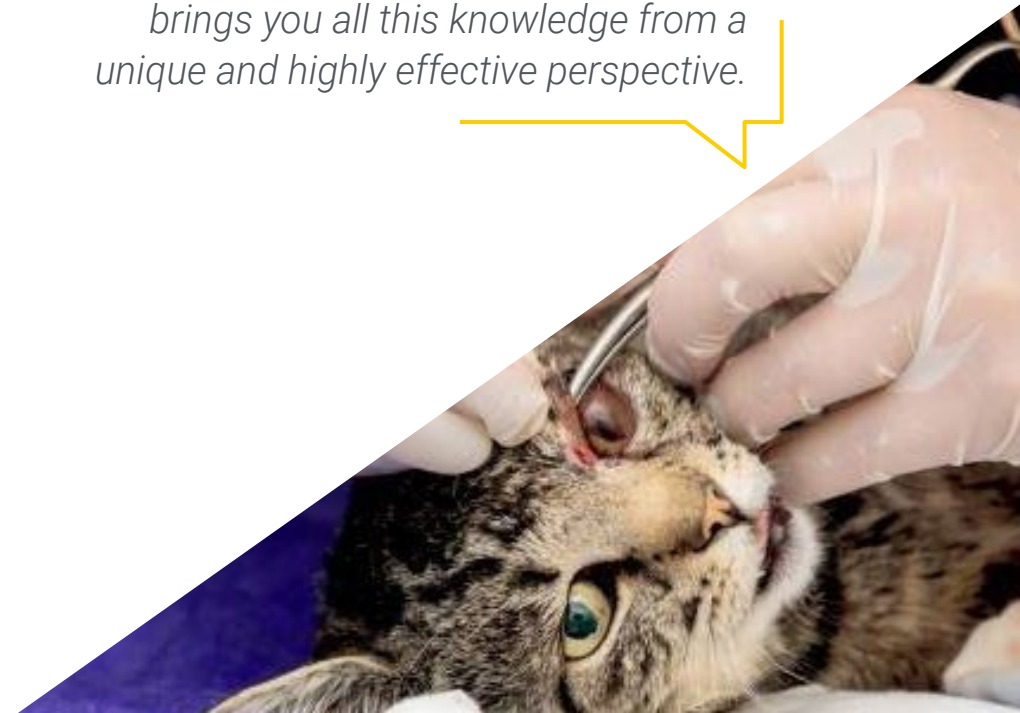
The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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.

*As a differentiating aspect, this Professional Master's Degree is not only focused on ocular pathologies of dogs and cats, but also addresses those of exotic animals.*

*Anatomical knowledge is essential for the correct interpretation of pathologies. This Professional Master's Degree brings you all this knowledge from a unique and highly effective perspective.*



# 02 Objectives

With the fundamental objective of providing veterinarians with specialized knowledge on veterinary ophthalmology, TECH has designed the most complete and up to date academic program in the market. After completing the 1,500 hours of study included in the Professional Master's Degree, professionals will be able to practice in this exciting field with total success and from a perspective based on maximum scientific rigor, the greatest relevance and the latest advances.







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*TECH has the full conviction of taking veterinarians to the top of their profession. If you want to be part of this path to success, do not hesitate to enroll in this Professional Master's Degree"*



## General Objectives

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- ◆ Develop a solid foundation in ocular anatomy
- ◆ Establish a correct chronology of ocular embryology
- ◆ Analyze the physiology of vision and its differences between species
- ◆ Specify types of drugs and their routes of administration to optimize their effect
- ◆ Identify surgical equipment and devices used in ophthalmic surgery
- ◆ Develop an orderly examination protocol
- ◆ Analyze common examining techniques to obtain more information
- ◆ Examine normal anatomy and function of orbital and periocular tissues
- ◆ Generate specialized knowledge in different surgical techniques
- ◆ Develop specialized knowledge in the diagnosis and medical-surgical treatment of conjunctiva and the lacrimal system
- ◆ Incorporate new developments in the diagnosis and treatment of lens pathologies
- ◆ Examine pathophysiology
- ◆ Develop specialized knowledge on congenital and acquired pathologies
- ◆ Establish correct examination of the anterior uvea
- ◆ Study classification of pathologies according to clinical signs
- ◆ Develop specialized knowledge of the glaucoma
- ◆ In depth study and adequacy of medical guidelines according to etiology
- ◆ Approach to ophthalmologic examination as part of general physical examination
- ◆ Relate ocular signs to systemic manifestations
- ◆ In depth study of diagnostic methods that integrate ocular and systemic signs





## Specific Objectives

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### Module I. Embryology, Anatomy, Physiology of Vision and Pharmacology

- ♦ Develop a solid foundation in ocular anatomy
- ♦ Study different points of embryology to determine congenital pathologies
- ♦ Determine differences in the physiology of vision in different species
- ♦ Examine process by which images and properties of the optical systems of the eyeball are formed
- ♦ Evaluate the different therapeutic options according to ocular pharmacology and determine the correct route of administration
- ♦ Compile anesthetic drugs for ophthalmologic use and know how to use them according to the diagnostic test or surgery to be performed

### Module 2. Ophthalmology Examination and Complementary Tests

- ♦ Optimize data collection from the patient's anamnesis, as well as from the basic examination tests
- ♦ Demonstrate uses of and information related to slit lamp
- ♦ Evaluate the advantages and disadvantages of direct and indirect ophthalmoscopy
- ♦ Establish a basis for the correct use of Tonometry and Gonioscopy
- ♦ Analyze the different possibilities for anterior and posterior segment imaging for objective follow up of patient lesions
- ♦ Determine basis for diagnostic imaging
- ♦ Review drugs for specific exploratory procedures

### **Module 3. Diseases and Surgery of the Eyelids and Nasolacrimal System**

- ♦ Establish different screening methods establish diagnostic protocols
- ♦ Identify advances in the approach to oculoposterior surgery
- ♦ Incorporate new developments into diagnosis and treatment
- ♦ Examine pathophysiology
- ♦ Develop specialized knowledge on congenital and acquired pathologies
- ♦ Develop abilities for the surgical approach to the orbit and eyelids

### **Module 4. Conjunctiva, Nictitating Membrane and Orbit Diseases and Surgery**

- ♦ Examine normal anatomy and function of conjunctiva and the lacrimal system
- ♦ Identify the most frequent clinical signs
- ♦ Analyze different diagnostic methods and establish protocols
- ♦ Generate diagnostic knowledge to examine tear film
- ♦ Study the different pathologies related to alterations of the tear film
- ♦ Present the latest surgical techniques for resolution of pathologies affecting the nictitating membrane
- ♦ Generate specialized knowledge of the different medical and surgical treatments of the lacrimal system

### **Module 5. Cornea Diseases and Surgery**

- ♦ 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

### **Module 6. Lens Diseases and Surgery**

- ♦ 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 intraoperative, preoperative and postoperative complications of lens surgery

**Module 7. Uveal and Retinal Diseases and Surgery**

- ♦ Determine the structures involved in uveal inflammation
- ♦ Analyze the involvement of systemic diseases and uveal involvement
- ♦ Develop a diagnostic plan based on uveal alterations observed in the patient
- ♦ Examine ophthalmologic examination for the diagnosis of anterior uveitis
- ♦ Explain how to localize the primary condition of uveal alterations
- ♦ Determine whether the disease is ophthalmologic or systemic
- ♦ Establish differential diagnoses according to clinical systemic and ocular signs
- ♦ Propose possible complementary tests according to the established differential diagnosis
- ♦ Present and establish a treatment plan for dealing with uveal disease in patients
- ♦ Establish a possible protocol for retinal lesions secondary to systemic conditions When presented with a blind eye, discern whether the problem is retinal or neurological

**Module 8. Exotic Animal Ophthalmology**

- ♦ In-depth study of the ocular anatomical characteristics of different exotic species
- ♦ Analyze the most appropriate examination methods for each species
- ♦ Generate a baseline of ocular anatomical features to be able to discern the most subtle symptoms that may be causing a pathology
- ♦ Present different therapeutic routes in order to propose the most appropriate treatment according to species
- ♦ Develop abilities for the surgical approach to different species

**Module 9. Glaucoma**

- ♦ Examine different types of glaucoma, as well as intraocular fluid dynamics
- ♦ Optimize use of diagnostic tools such as Tonometry and Gonioscopy to obtain key data for subsequent treatment
- ♦ Analyze the effect of elevated intraocular pressure on the various intraocular structures

**Module 10. Systemic Diseases**

- ♦ Recognize ocular signs related to systemic disease
- ♦ Describe systemic diseases commonly found in small species
- ♦ Establish a diagnostic plan



*Your goals and TECH's goals  
become one and the same with  
this Professional Master's Degree"*

# 03 Skills

After completing the exercises, practices and tests included in the Professional Master's Degree, students will have acquired a series of competencies, tools and knowledge that will enable them to practice in the highest professional spheres of veterinary ophthalmology. This program therefore becomes a unique opportunity that is only available to those who want to be at the forefront of the specialty, and would like to provide patients with a differential and innovative approach to ocular pathologies.





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*The tools that TECH puts at your service will help you acquire the professional skills most in demand in the sector"*



## General Skills

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- ♦ Provide the veterinarian with specialized knowledge on the latest pathologies and therapeutic alternatives in ophthalmology in small animals
- ♦ In depth knowledge of the process of embryonic development and its implication in the origin of the eyeball
- ♦ An in depth study of ophthalmological conditions, as well as the possibility to learn and enhance specific and advanced diagnostic protocols, will allow students to establish the most appropriate medical and/or surgical treatments in their daily practice

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*After 1,500 hours of learning, you will have seamlessly acquired new criteria for action that will position you as an expert in the field"*







## Specific Skills

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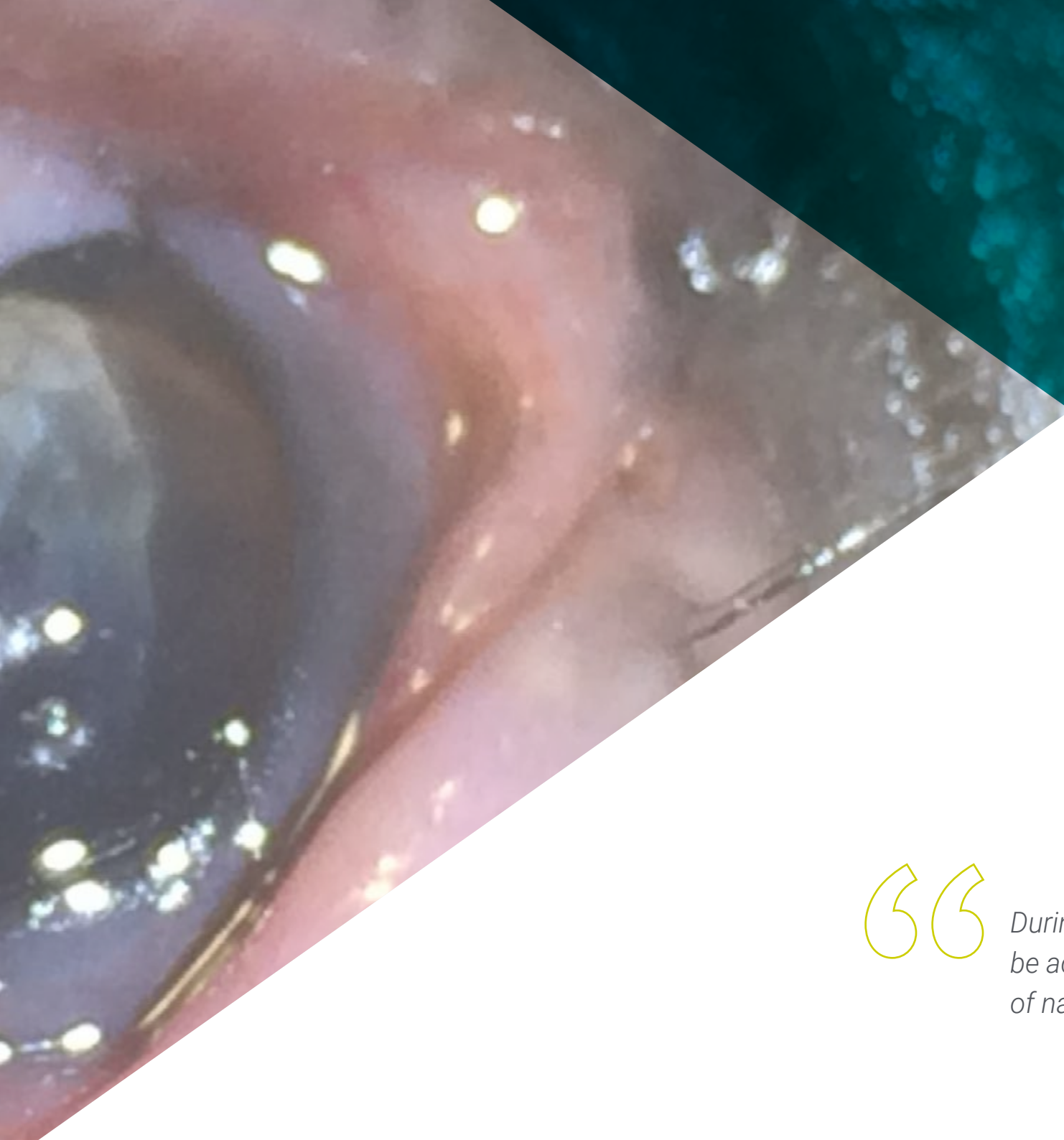
- ◆ Provide students with a solid foundation in animal anatomy
- ◆ Identify different anesthetic drugs and their ophthalmologic use
- ◆ Know how to evaluate the advantages and disadvantages of a direct and indirect ophthalmoscopy
- ◆ Understand basis for diagnostic imaging
- ◆ Apply specialized knowledge of congenital and acquired pathologies
- ◆ Be familiar with advances in the approach to oculoposterior surgery
- ◆ Acquire specialized knowledge in the diagnosis and medical-surgical treatment of conjunctiva and the lacrimal system
- ◆ Know how to classify and categorize corneal ulcers
- ◆ Identify different neoplasms located in the cornea
- ◆ Know how to perform a serial and methodical examination of the ocular fundus
- ◆ Discern the most appropriate examination methods for each species
- ◆ Be able to optimize use of diagnostic tools such as Tonometry and Gonioscopy to obtain key data for subsequent treatment
- ◆ Be able to prepare a diagnostic plan
- ◆ Be familiar with systemic diseases commonly found in small species

# 04

# Course Management

In accordance with its maxim of offering an elite education for all, TECH counts on renowned professionals in order for students to acquire solid knowledge in the specialty of Veterinary Ophthalmology. For this reason, this Professional Master's Degree has a highly qualified team with extensive experience in the sector, which will offer the best possible resources for students in the development of their skills during the course. In this way, veterinarians 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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*During your apprenticeship, you will be accompanied by professionals of national and international stature"*

## 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

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*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
- ♦ Responsable for Ophtalmology
- ♦ 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 de 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

### 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

### Dr. Ojeda Porcar, Ana Belén

- ♦ General veterinary and ophthalmologic surgery practice at Centre Veterinari La Vall
- ♦ Bachelor's Degree in Veterinary Medicine, CEU Cardenal Herrera University Valencia
- ♦ Postgraduate studies in Small Animal Ophthalmology CEU Cardenal Herrera University Valencia
- ♦ Basic course in small animal soft tissue surgery

### Dr. Simó Vesperinas, María

- ♦ Emergency veterinarian at the VetsNow Emergency Hospital, Manchester, England
- ♦ Emergency veterinarian at the Veterinari Canis Hospital of Girona
- ♦ Bachelor's Degree in Veterinary Medicine, Autonomous University of Barcelona
- ♦ Practical course on Microsurgery in Corneal Pathology, held at the Institute of Ocular Microsurgery
- ♦ Congress of veterinary ophthalmology: "Ocular Manifestations of Systemic Diseases", held at the Institute of Ocular Microsurgery (IMO)
- ♦ Internships at Texas A&M University Veterinary Hospital
- ♦ Attending the Postgraduate course in Veterinary Ophthalmology by B.S.A.V.A.

### Chicano Marín, Francisco José

- ♦ Collaboration with the R&D department of Alcon Laboratories in El Masnou.
- ♦ Collaborations at the Harlan Laboratories' experimental center
- ♦ Bachelor's Degree in Veterinary Medicine from the University of Zaragoza
- ♦ Postgraduate in Veterinary Medicine Ophthalmology, Autonomous University of Barcelona
- ♦ Certified by AVEPA as a specialist in veterinary ophthalmology
- ♦ Member of SEOVET Minimally Invasive Small Animal Surgery and Small Animal Anesthesia courses, participated in several research projects
- ♦ During his professional career, he has made internships in hospitals in Europe and North America, as well as participating in several publications and communications in congresses

**Dr. Martínez Gassent, María**

- ♦ Clinical Ophthalmology Service Anicura Ars Veterinaria, Barcelona, Spain
- ♦ Specialty Internship at the Ophthalmology Service Ars Veterinaria, Barcelona
- ♦ Self employed, creator and general veterinarian at Itinerant Veterinarian Clinic Nomavet, Valencia
- ♦ Collaborator Professor of Pharmacology at the CEU Cardenal Herrera University
- ♦ Bachelor's Degree in Veterinary Medicine, CEU Cardenal Herrera University, Valencia
- ♦ Postgraduate Diploma in Small Animal Surgery and Anaesthesia by the Autonomous University of Barcelona
- ♦ Postgraduate Diploma in Small Animal Surgery and Ocular Pathology by the Autonomous University of Barcelona
- ♦ Basic Science Course in Veterinary Ophthalmology at the University of North Carolina

**Dr. Iaquinandi Murtagh, Agustina**

- ♦ Iaquinandi Veterinary Ophthalmologic Center, Olavarría 142, Quilmes, Buenos Aires, Argentina
- ♦ Laboratory of Retinal Neurochemistry and Experimental Ophthalmology, Dept. of Human Biochemistry, Faculty of Medicine CEFyBO, U.B.A/CONICET Paraguay
- ♦ Bachelor's Degree, Faculty of Sciences Veterinaries, UNLP B.Sc. in Veterinary Medicine
- ♦ Course in Equine Ophthalmology and Companion Animals
- ♦ Postgraduate Course in Veterinary Ophthalmology, organized by the Department of Animal Medicine and Surgery Autonomous University of Barcelona Bellaterra (Cerdanyola del Vallès)
- ♦ Advanced Theoretical-Practical Course on Ocular Ultrasound Argentinian Association of Ophthalmology (SAO)







**Dr. Sánchez López, Susana**

- ♦ Bachelor's Degree in Veterinary Medicine from the University of Murcia
- ♦ Postgraduate in Small Animal Ophthalmology, CEU Cardenal Herrera University
- ♦ Postgraduate studies in Small Animal Internal Medicine, Improve International
- ♦ General Practitioner Certificate in Small Medicine- Improve Internacional
- ♦ Completed the training program in Ophthalmic Microsurgery at the Ophthalmic Microsurgery Institute of Barcelona, given by Ophtaltraining Among these, courses in; palpebral, corneal and crystalline lens surgery
- ♦ Internships in recognized centers in Spain
- ♦ Seovet member, active participation with the presentation of work at Congress

# 05

## Structure and Content

For this Professional Master's Degree, a group of high level professionals have designed the most comprehensive and in depth content compendium on the academic 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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*Study with a proven teaching methodology and see how your career is boosted and moves one step further"*

## Module 1. Embryology, Anatomy, Physiology of Vision and Pharmacology

- 1.1. Embryology. Ocular Development
  - 1.1.1. Development of the Ocular Globe and Appendages
    - 1.1.1.1. Eyelids and Nasolacrimal System
    - 1.1.1.2. Conjunctiva and Nictitating Membrane
    - 1.1.1.3. Extraocular Muscles
  - 1.1.2. Anterior Segment Development
    - 1.1.2.1. Cornea
    - 1.1.2.2. Iridocorneal Angle
    - 1.1.2.3. Iris
    - 1.1.2.4. Lens
  - 1.1.3. Posterior Segment Development
    - 1.1.3.1. Sclerosant
    - 1.1.3.2. Choroids
    - 1.1.3.3. Vitreous
    - 1.1.3.4. Retina
    - 1.1.3.5. Optic Nerve
    - 1.1.3.6. *Tapetum*
- 1.2. Ocular Developmental Anomalies
  - 1.2.1. Ocular Developmental Anomalies
    - 1.2.1.1. Cyclopia and Synophthalmia
    - 1.2.1.2. Microphthalmia and Anophthalmia
    - 1.2.1.3. Palpebral Alterations
    - 1.2.1.4. Dermoids
    - 1.2.1.5. Anterior Segment Development
    - 1.2.1.6. Alterations of the Iris, Choroid and Sclera
    - 1.2.1.7. Congenital Cataracts
    - 1.2.1.8. Congenital Glaucoma
    - 1.2.1.9. Persistence of Primary Hyperplastic Vitreous Persistence of Vasculose Tunic
    - 1.2.1.10. Retinal Dysplasia
    - 1.2.1.11. Optic Nerve Alterations





- 1.3. Ocular Anatomy
  - 1.3.1. Orbit
  - 1.3.2. Extraocular Muscles and Orbital Fat
  - 1.3.3. Ocular Globe
- 1.4. Vascular Anatomy
  - 1.4.1. Vascular Anatomy
  - 1.4.2. Neuroanatomy
- 1.5. Physiology
  - 1.5.1. Tear Film
  - 1.5.2. Aqueous Humor Physiology
  - 1.5.3. Blood-Aqueous Barrier
  - 1.5.4. Intraocular Pressure
- 1.6. Physiology of Vision
  - 1.6.1. Light Sensitivity
  - 1.6.2. Motion Sensitivity
  - 1.6.3. Visual Field
  - 1.6.4. Visual Acuity
  - 1.6.5. Color Vision
- 1.7. Ophthalmologic Drug Administration
  - 1.7.1. Ophthalmologic Medication Administration Routes
  - 1.7.2. Pharmacotherapy Enhancement
  - 1.7.3. Pharmacological Injections

- 1.8. Anti-inflammatory, Antimicrobial and Pio Control Drugs
  - 1.8.1. Anti-Inflammatory Drugs
    - 1.8.1.1. Glucocorticoids
    - 1.8.1.2. Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)
    - 1.8.1.3. Other Immunosuppressive Agents
  - 1.8.2. Antimicrobial Agents
    - 1.8.2.1. Antibiotics
    - 1.8.2.2. Antimycotics
    - 1.8.2.3. Antivirals
    - 1.8.2.4. Disinfectants
  - 1.8.3. Anti-Inflammatory, Antimicrobial and Pio Control Drugs
    - 1.8.3.1. Carbonic Anhydrase Inhibitors
    - 1.8.3.2. Prostaglandins
    - 1.8.3.3. Myotics Cholinergic Agents
    - 1.8.3.4. Adrenergic Drugs
- 1.9. Cholinergic, Midriatic and Anesthetic Drugs
  - 1.9.1. Cholinergic Drugs
  - 1.9.2. Midriatic Drugs
  - 1.9.3. Anesthetic Drugs
- 1.10. Artificial Tears, Tissue Adhesives and Hyperosmotic Agents
  - 1.10.1. Artificial Tears
  - 1.10.2. Tissue Adhesives
  - 1.10.3. Hyperosmotic Agents

## Module 2. Ophthalmologic Examination and Complementary Tests

- 2.1. Ophthalmologic Examination
  - 2.1.1. Remote Ophthalmological Exploration
  - 2.1.2. Medical History
  - 2.1.3. Clamping Methods
  - 2.1.4. Basic Instruments for Ophthalmological Examination

- 2.2. Direct and Indirect Ophthalmoscopy
  - 2.2.1. Direct Examination
    - 2.2.1.1. Palpebral Reflex
    - 2.2.1.2. Threat Response
    - 2.2.1.3. Glare Reflex
    - 2.2.1.4. Pupillomotor Reflex
    - 2.2.1.5. Corneal Reflex
  - 2.2.2. Biomicroscopy
  - 2.2.3. Direct Ophthalmoscopy
  - 2.2.4. Indirect Ophthalmoscopy
    - 2.2.4.1. Monocular Indirect Ophthalmoscopy
- 2.3. Ophthalmic Exploration Tests
  - 2.3.1. Schirmer Test
  - 2.3.2. Fluorescein Test
    - 2.3.2.1. Fluorescein Test
    - 2.3.2.2. Break Up Time (BUT)
    - 2.3.2.3. Test for Jones
    - 2.3.2.4. Test for Seidel
  - 2.3.3. Rose of Bengal
  - 2.3.4. Lysamine Green
- 2.4. Tonometry
  - 2.4.1. Indentation Tonometry
  - 2.4.2. Applanation Tonometry
  - 2.4.3. Rebound Tonometry
- 2.5. Gonioscopy
  - 2.5.1. Direct Gonioscopy
  - 2.5.2. Indirect Gonioscopy

- 2.6. Cytology and Biopsies
  - 2.6.1. Cytology Sampling
    - 2.6.1.1. Conjunctival Cytology
    - 2.6.1.2. Corneal Cytology
    - 2.6.1.3. Aqueous Humor Cytology
    - 2.6.1.4. Urine Cytology
  - 2.6.2. Biopsy Sampling
- 2.7. Ocular Ultrasound
  - 2.7.1. Anterior Segment Ultrasound
  - 2.7.2. Posterior Segment Ultrasound
  - 2.7.3. Orbit Ultrasound
- 2.8. Optical Coherence Tomography (OCT)
  - 2.8.1. Corneal OCT
  - 2.8.2. Iridocorneal Angle
  - 2.8.3. Retinal OCT
- 2.9. Electroretinography
  - 2.9.1. Electroretinography (ERG)
  - 2.9.2. Electroretinography Technique
  - 2.9.3. Erg Applications
- 2.10. Other Diagnostic Imaging
  - 2.10.1. MRI and CT
  - 2.10.2. Fluorescein Angiography
  - 2.10.3. Pachymetry
  - 2.10.4. Meibography
- 3.2. Congenital and Developmental Abnormalities
  - 3.2.1. Physiological and Pathological Ankyloblepharon
  - 3.2.2. Colobomas
  - 3.2.3. Dermoids
  - 3.2.4. Distichiasis and Ectopic Cilia
  - 3.2.5. Entropion
  - 3.2.6. Ectropion
  - 3.2.7. Macrolepharon
- 3.3. Surgical Techniques
  - 3.3.1. Entropion
  - 3.3.2. Ectropion
  - 3.3.3. Euriblefaron, Diamond Eye
  - 3.3.4. Trauma
- 3.4. Blepharitis
  - 3.4.1. Bacterial
  - 3.4.2. Mycotic
  - 3.4.3. Parasitic
  - 3.4.4. Leishmania
  - 3.4.5. Immuno-Mediated
  - 3.4.6. Meibomyanitis
- 3.5. Neoplasms
  - 3.5.1. Neoplasms in Dogs
  - 3.5.2. Neoplasms in Cats
- 3.6. Reconstructive Surgery
  - 3.6.1. Advance Flaps
  - 3.6.2. Myocutaneous Tissue
  - 3.6.3. Tarsoconjunctival Tissue

### Module 3. Eyelid and Nasolacrimal System Diseases and Surgery

- 3.1. Structure and Function
  - 3.1.1. Palpebral Surgery
  - 3.1.2. Anaesthetic Protocol
  - 3.1.3. Preparation and Positioning
  - 3.1.4. Suture Instruments and Materials

- 3.7. Nasolacrimal System
  - 3.7.1. Embryology
  - 3.7.2. Anatomy and Physiology
  - 3.7.3. Clinical Signs of Nasolacrimal System Disease
  - 3.7.4. Diagnostic techniques
    - 3.7.4.1. Schirmer Test
    - 3.7.4.2. Cytology and Microbiological Cultures
    - 3.7.4.3. Jones Test and Nasolacrimal Washing
    - 3.7.4.4. Imaging
      - 3.7.4.4.1. CAT
      - 3.7.4.4.2. MRI
      - 3.7.4.4.3. Ultrasonography
- 3.8. Systemic Pathology in Children
  - 3.8.1. Lacerations
  - 3.8.2. Dacryocystitis
  - 3.8.3. Nasolacrimal Duct Neoplasms
- 3.9. Lacrimal Secretory System
  - 3.9.1. Lacrimal Formation and Components
  - 3.9.2. Pre-Corneal Film Pathologies
  - 3.9.3. Quantitative Lacrimal Deficiency
  - 3.9.4. Qualitative Lacrimal Deficiency
  - 3.9.5. Lacrimal Quantity and Quality Diagnosis
  - 3.9.6. Treatment of Quantitative and Qualitative Lacrimal Deficiency
- 3.10. New Therapies in Quantitative and Qualitative Lacrimal Deficiency
  - 3.10.1. New Therapies in Quantitative Lacrimal Deficiency
  - 3.10.2. New Therapies in Qualitative Lacrimal Deficiency

## Module 4. Conjunctiva, Nictitating Membrane and Orbit Diseases and Surgery

- 4.1. Conjunctiva Physiology
  - 4.1.1. Conjunctiva Anatomy and Physiology
  - 4.1.2. Disease Response
  - 4.1.3. Infectious Conjunctivitis
    - 4.1.3.1. Bacterial Conjunctivitis
    - 4.1.3.2. Viral Conjunctivitis
    - 4.1.3.3. Fungal Conjunctivitis
    - 4.1.3.4. Rickettsial Conjunctivitis
    - 4.1.3.5. Parasitic Conjunctivitis
- 4.2. Conjunctivitis Classification
  - 4.2.1. Non-Infectious Conjunctivitis
    - 4.2.1.1. Allergic Conjunctivitis
    - 4.2.1.2. Follicular Conjunctivitis
    - 4.2.1.3. Ligneous Conjunctivitis
    - 4.2.1.4. Lipogranulomatous Conjunctivitis
    - 4.2.1.5. Conjunctivitis Associated with Lacrimal Deficiency
    - 4.2.1.6. Conjunctivitis Associated with Anatomical Alterations
  - 4.2.2. Conjunctival Neoplasms
- 4.3. Non-Neoplastic Mass Conjunctivitis
  - 4.3.1. Non-Neoplastic Masses
    - 4.3.1.1. Inflammatory
    - 4.3.1.2. Dermoid
    - 4.3.1.3. Parasitic
    - 4.3.1.4. Fat Prolapse
    - 4.3.1.5. Cysts
- 4.4. Conjunctival Surgery
  - 4.4.1. Instruments
  - 4.4.2. Lacerations
  - 4.4.3. Conjunctival Tissue
  - 4.4.4. Simblepharon
  - 4.4.5. Conjunctival Masses





- 4.5. Nictitating Membrane Anatomical Variation
  - 4.5.1. Anatomy and Physiology
  - 4.5.2. Exploration
  - 4.5.3. Anatomical Variation
    - 4.5.3.1. Pigmentation Variation
    - 4.5.3.2. Ercycling
- 4.6. Nictitating Membrane Acquired Diseases
  - 4.6.1. Congenital or Developmental Abnormalities
    - 4.6.1.1. Cartilage Eversion
    - 4.6.1.2. Nictitating Gland Prolapse
  - 4.6.2. Acquired Pathologies
    - 4.6.2.1. Lacerations
    - 4.6.2.2. Foreign Bodies
    - 4.6.2.3. Inflammatory Diseases
    - 4.6.2.4. Nictitating Membrane Protrusion
    - 4.6.2.5. Neoplasms
- 4.7. Nictitating Membrane Surgery
  - 4.7.1. Cartilage Eversion
  - 4.7.2. Gland Prolapse
  - 4.7.3. Third Eyelid Flap
- 4.8. Orbit Orbital Diseases
  - 4.8.1. Anatomy
  - 4.8.2. Pathological Mechanisms
  - 4.8.3. Orbital Diseases
    - 4.8.3.1. Orbital Cellulitis Retrobulbar Abscess
    - 4.8.3.2. Orbital Cystic Lesions
    - 4.8.3.3. Vascular Anomalies
    - 4.8.3.4. Myositis
    - 4.8.3.5. Neoplasms
    - 4.8.3.6. Trauma
      - 4.8.3.6.1. Fractures
      - 4.8.3.6.2. Emphysema
      - 4.8.3.6.3. Ocular Proptosis
    - 4.8.3.7. Fat Prolapse

- 4.9. Ocular Globe and Orbit
  - 4.9.1. Preparation
  - 4.9.2. Anesthesia
  - 4.9.3. Enucleation
  - 4.9.4. Exanteration
- 4.10. Orbitotomy and Orbitectomy
  - 4.10.1. Orbital Prosthesis
  - 4.10.2. Evisceration and Intrascleral Prosthesis
  - 4.10.3. Orbitotomy and Orbitectomy

## Module 5. Corneal Diseases and Surgery

- 5.1. Physiology of Cornea
  - 5.1.1. Clarity Corneal Transparency
  - 5.1.2. Corneal Scarring
    - 5.1.2.1. Proteases and Protease Inhibitors in the Corneal Healing Process
    - 5.1.2.2. Proteinase
  - 5.1.3. Corneal Epithelial, Endothelial pigmentation
  - 5.1.4. Corneal Edema, Corneal Vascularization
- 5.2. Congenital and Developmental Diseases
  - 5.2.1. Microcornea Megalocornea
  - 5.2.2. Dermoid cysts
  - 5.2.3. Congenital Opacities Persistent Pupillary Membranes
  - 5.2.4. Coloboma Staphyloma
- 5.3. Inflammatory Keratopathies
  - 5.3.1. Ulcerative Keratitis
  - 5.3.2. Bacterial Keratitis
  - 5.3.3. Viral Keratitis
  - 5.3.4. Mycotic Keratitis
- 5.4. Corneal Ulcers
  - 5.4.1. Ulcer Depth Identification
  - 5.4.2. Chronic Spontaneous Chronic Spontaneous Epithelial Defects (SCCEDs)
- 5.5. Corneal Surgery
  - 5.5.1. Corneal Adhesives
  - 5.5.2. Conjunctival Tissue
  - 5.5.3. Use of Biological Membranes
  - 5.5.4. Keratoplasties
- 5.6. Non-Ulcerative Keratitis
  - 5.6.1. Pigmentary Keratitis
  - 5.6.2. Superficial Keratitis
  - 5.6.3. Keratitis Punctata
  - 5.6.4. Marginal Keratitis
  - 5.6.5. Keratitis Punctata
  - 5.6.6. Neurogenic Keratitis
- 5.7. Non-Inflammatory Keratopathies
  - 5.7.1. Corneal Dystrophies
  - 5.7.2. Lipid Keratopathy
  - 5.7.3. Corneal Degeneration
  - 5.7.4. Endothelial Dystrophy
  - 5.7.5. Florida Keratopathy
  - 5.7.6. Surgery for Keratopathies
- 5.8. Corneal Neoplasms
  - 5.8.1. Neoplasms in Dogs
  - 5.8.2. Neoplasms in Cats
- 5.9. Sclera
  - 5.9.1. Structure and Function
  - 5.9.2. Inflammatory Diseases
    - 5.9.2.1. Episcleritis
      - 5.9.2.1.1. Nodular Granulomatous
  - 5.9.3. Scleritis
    - 5.9.3.1. Non-Necrotizing
    - 5.9.3.2. Necrotizing
  - 5.9.4. Trauma Laceration

- 5.10. *Cross Linking*. Cryotherapy
  - 5.10.1. *Cross linking* and Cryotherapy
  - 5.10.2. Keratopathies Treated with Cross Linking
  - 5.10.3. Keratopathies Treated with Cryotherapy

## Module 6. Lens Diseases and Surgery

- 6.1. Embryology and Anatomy
  - 6.1.1. Embryology
  - 6.1.2. Anatomy
- 6.2. Crystalline Lens Exploration
  - 6.2.1. Crystalline Lens Exploration
  - 6.2.2. Advanced Examination
- 6.3. Congenital Alterations
  - 6.3.1. Aphakia
  - 6.3.2. Coloboma
  - 6.3.3. Microphakia
  - 6.3.4. Lenticon
  - 6.3.5. PHPV/TVL
  - 6.3.6. Cataracts
- 6.4. Acquired Disorders
  - 6.4.1. Cataracts, Classification
  - 6.4.2. Characterization, Location
  - 6.4.3. Age
    - 6.4.3.1. Congenital
    - 6.4.3.2. Hereditary
    - 6.4.3.3. *Aged Related*
  - 6.4.4. Primary vs. Secondary
- 6.5. Metabolic and Systemic Cataracts
  - 6.5.1. Ions
  - 6.5.2. Diabetes
  - 6.5.3. Galactosemia
  - 6.5.4. Infectious Diseases
- 6.6. Metabolic and Systemic Cataract Treatment
  - 6.6.1. Doctor
  - 6.6.2. Surgical
- 6.7. Visual Alterations and Untreated Cataract Sequelae
  - 6.7.1. Visual Alterations
  - 6.7.2. Untreated Cataract Sequelae
    - 6.7.2.1. Iris Hyperpigmentation
    - 6.7.2.2. Other Sequelae
- 6.8. Dislocation
  - 6.8.1. Primary Dislocation
  - 6.8.2. Secondary Dislocation
- 6.9. Cataract Surgery
  - 6.9.1. Patient Selection
  - 6.9.2. Complementary Tests
    - 6.9.2.1. Ultrasound
    - 6.9.2.2. Gonioscopy
    - 6.9.2.3. ERG
  - 6.9.3. Complications
    - 6.9.3.1. Pre-Surgery
    - 6.9.3.2. Intra-Operative
    - 6.9.3.3. Post-Operatives
  - 6.9.4. Patient Preparation
  - 6.9.5. Equipment
  - 6.9.6. Surgery
- 6.10. Lens Luxation Surgery
  - 6.10.1. Patient Selection
  - 6.10.2. Patient Preparation
  - 6.10.3. Intraoperative complications
  - 6.10.4. Techniques

## Module 7. Uveal and Retinal Diseases and Surgery

- 7.1. Uveal Embryology and Anatomy
  - 7.1.1. Embryology
  - 7.1.2. Anatomy
- 7.2. Congenital Disorders
  - 7.2.1. Heterochromia
  - 7.2.2. Colobomas
  - 7.2.3. Persistent Pupillary Membranes
  - 7.2.4. Discoria
- 7.3. Degenerative Disorders
  - 7.3.1. Iris Atrophy
  - 7.3.2. Iris Cysts
- 7.4. Uveal Inflammation
  - 7.4.1. Intraocular Causes
  - 7.4.2. Systemic Causes
- 7.5. Diagnosis and Clinical introduction
  - 7.5.1. Ophthalmologic Examination
  - 7.5.2. Neuro-Ophthalmology
- 7.6. Discoloration
  - 7.6.1. Benign
  - 7.6.2. Neoplasms
    - 7.6.2.1. Primary
    - 7.6.2.2. Metastatic
- 7.7. Specific Treatments Based on Cause
  - 7.7.1. Topical Treatments
  - 7.7.2. Systemic Adjuvant Therapy
  - 7.7.3. Specific Therapy by Etiology
  - 7.7.4. Sequelae Control
- 7.8. Variations in Ocular Fundus Normality
  - 7.8.1. Age
  - 7.8.2. Albinism



- 7.9. Retinal Disorders
  - 7.9.1. On Development
  - 7.9.2. Hereditary
  - 7.9.3. Storage Related
  - 7.9.4. Inflammatory (Causes)
  - 7.9.5. Various
    - 7.9.5.1. SARDs
    - 7.9.5.2. CAR
    - 7.9.5.3. Immune-Mediated Retinitis
    - 7.9.5.4. Uveodermatological Syndrome
    - 7.9.5.5. Nutritional
    - 7.9.5.6. Neoplasms
- 7.10. Medical Management vs. Surgical Retinal Lesions
  - 7.10.1 Types of Retinal Detachment
  - 7.10.2 Genetic Disorders

## Module 8. Exotic Animal Ophthalmology

- 8.1. Ophthalmology in Exotic Animals
  - 8.1.1. Environment
  - 8.1.2. Assessment of Vision
  - 8.1.3. Comparative Retinal Anatomy
  - 8.1.4. Restrictions
  - 8.1.5. Visual Reflexes
  - 8.1.6. Exotic Animal Medical Therapy
  - 8.1.7. Surgical Procedures in Exotic Animals
- 8.2. Rabbits
  - 8.2.1. Anatomy
  - 8.2.2. Exploration
  - 8.2.3. Orbital Diseases
  - 8.2.4. Palpebral Diseases
  - 8.2.5. Conjunctival Pathologies
  - 8.2.6. Nasolagrimal System Diseases
  - 8.2.7. Corneal Pathology
  - 8.2.8. Cataracts
  - 8.2.9. Glaucoma

- 8.3. Guinea Pig
  - 8.3.1. Anatomy
  - 8.3.2. Palpebral Diseases
  - 8.3.3. Conjunctival Pathologies
  - 8.3.4. Corneal Pathologies
  - 8.3.5. Cataracts
  - 8.3.6. Heterotopic Bone
- 8.4. Rats and Mice
  - 8.4.1. Anatomy
  - 8.4.2. Exploration
  - 8.4.3. Conjunctival and Nasolacrimal System Pathologies
  - 8.4.4. Corneal Pathologies
  - 8.4.5. Cataracts
  - 8.4.6. Uveal Pathologies
  - 8.4.7. Posterior Segment Abnormalities
- 8.5. Wild Animals
  - 8.5.1. General Characteristics
  - 8.5.2. Examination (Daytime vs. Night-time)
  - 8.5.3. Complementary Tests
  - 8.5.4. Medical and Surgical Restrictions
  - 8.5.5. Administration Routes
  - 8.5.6. Surgical Procedures ( Species Differences)
  - 8.5.7. Postoperative Care
- 8.6. Ferrets
  - 8.6.1. Anatomy
  - 8.6.2. Exploration
  - 8.6.3. Orbital Diseases
  - 8.6.4. Conjunctival Pathologies
  - 8.6.5. Corneal Pathologies
  - 8.6.6. Cataracts
  - 8.6.7. Uveal Pathology
  - 8.6.8. Glaucoma

- 8.7. Other Exotic Mammals
  - 8.7.1. Hamsters
  - 8.7.2. Chipmunks
  - 8.7.3. Gerbils
  - 8.7.4. Degus
  - 8.7.5. Hedgehogs
- 8.8. Birds
  - 8.8.1. Anatomy
  - 8.8.2. Exploration
  - 8.8.3. Trauma
  - 8.8.4. Palpebral Diseases
  - 8.8.5. Conjunctival Pathologies
  - 8.8.6. Corneal Pathologies
  - 8.8.7. Uveal Pathology
  - 8.8.8. Cataracts
  - 8.8.9. Horner Syndrome
  - 8.8.10. Enucleation
- 8.9. Reptiles Anatomy and Physiology
  - 8.9.1. Anatomy and Physiology
  - 8.9.2. Speculum and Its Pathologies
  - 8.9.3. Microphthalmia and Anophthalmia
  - 8.9.4. Megaglobus
- 8.10. Reptiles Pathologies
  - 8.10.1. Hypovitaminosis A in Tortoises
  - 8.10.2. Palpebral Diseases and Dacryocystitis
  - 8.10.3. Conjunctival Pathologies
  - 8.10.4. Corneal Pathologies
  - 8.10.5. Uveal Pathologies
  - 8.10.6. Cataracts
  - 8.10.7. Posterior Segment Abnormalities

- 8.11. Fish and Amphibians
  - 8.11.1. Fish
    - 8.11.1.1. Anatomy
    - 8.11.1.2. Exploration
    - 8.11.1.3. Ocular Pathology
  - 8.11.2. Amphibians
    - 8.11.2.1. Anatomy
    - 8.11.2.2. Exploration
    - 8.11.2.3. Ocular Pathology

## Module 9. Glaucoma

- 9.1. Anatomy and Embryology
  - 9.1.1. Embryological Development of the Iridocorneal Angle
  - 9.1.2. Embryological Development of the Trabecular Mesh
  - 9.1.3. Intraocular Hypertension-Associated Anatomical Changes
- 9.2. Glaucoma Classifications
  - 9.2.1. Classification According to Etiology
    - 9.2.1.1. Primary
    - 9.2.1.2. Secondary
- 9.3. Diagnosis
  - 9.3.1. Ophthalmologic Examination
    - 9.3.1.1. Fundoscopy
    - 9.3.1.2. Neuro-Ophthalmology
  - 9.3.2. Tonometry
  - 9.3.3. Gonioscopy
  - 9.3.4. Complementary Imaging Techniques
    - 9.3.4.1. UBM
    - 9.3.4.2. High-Resolution Ultrasonography
    - 9.3.4.3. Optical Coherence Tomography (OCT)

- 9.4. Clinical Signs
  - 9.4.1. Intraocular Hypertension
  - 9.4.2. Acute Primary Glaucoma
  - 9.4.3. Secondary Glaucoma
    - 9.4.3.1. Acute
    - 9.4.3.2. Chronic
- 9.5. Primary Canine Glaucoma (According to Breeds)
  - 9.5.1. Heritability
  - 9.5.2. Genetic Tests
  - 9.5.3. Pectinate Ligament Dysplasia
  - 9.5.4. Sex-Age Relationship
  - 9.5.5. Open-Angle Glaucoma
    - 9.5.5.1. Beagle
    - 9.5.5.2. *Norwegian Elkhound*
    - 9.5.5.3. *Petit Basset Griffon*
  - 9.5.6. Closed-Angle Glaucoma
    - 9.5.6.1. *American Cocker Spaniel*
    - 9.5.6.2. *Basset Hound*
    - 9.5.6.3. *Chow Chow*
    - 9.5.6.4. *Samoyed*
    - 9.5.6.5. Other Breeds
- 9.6. Secondary Glaucoma
  - 9.6.1. Causes
    - 9.6.1.1. Primary Lens Luxation
    - 9.6.1.2. Uveitis
    - 9.6.1.3. Phacomorphic
    - 9.6.1.4. Associated with Crystalline Surgery
    - 9.6.1.5. Malignant Glaucoma
    - 9.6.1.6. Trauma
    - 9.6.1.7. Pigmentary Glaucoma
    - 9.6.1.8. Retinal Disorders
    - 9.6.1.9. Neoplasms
- 9.7. Feline Glaucoma (Primary and Secondary)
  - 9.7.1. Causes
    - 9.7.1.1. Congenital
    - 9.7.1.2. Primary
    - 9.7.1.3. Secondary
  - 9.7.2. Clinical Signs
  - 9.7.3. Medical Treatment
    - 9.7.3.1. Feline Species-Specific Characteristics
  - 9.7.4. Surgical Management
- 9.8. Medical Treatment
  - 9.8.1. Decreased Aqueous Humor Production
  - 9.8.2. Increased Secondary Channel Drainage
  - 9.8.3. Neuro-Protection
- 9.9. Surgical Management
  - 9.9.1. Patient Selection
  - 9.9.2. Pre- and Post-Operative Patient Treatment
  - 9.9.3. Valve Attachment
    - 9.9.3.1. Surgical Technique
    - 9.9.3.2. Post-Operative Care
    - 9.9.3.3. Surgical Results
  - 9.9.4. Cyclodestruction
    - 9.9.4.1. Photocoagulation
    - 9.9.4.2. Chemical
    - 9.9.4.3. Thermal
- 9.10. Ocular Changes in Chronic Glaucomas
  - 9.10.1. Cornea
  - 9.10.2. Sclera
  - 9.10.3. Lens
  - 9.10.4. Uvea
  - 9.10.5. Retina
  - 9.10.6. Optic Nerve

## Module 10. Systemic Diseases

- 10.1. Congenital Diseases
  - 10.1.1. Albinism and Coat Color-Related Conditions
  - 10.1.2. Dysplasia Osteochondrodysplasia
  - 10.1.3. Hydrocephalus
  - 10.1.4. Myasthenia Gravis
- 10.2. Developmental Disorders
  - 10.2.1. Metabolic Diseases
  - 10.2.2. Lysosomal Storage
  - 10.2.3. Lipofuscinosis
  - 10.2.4. Gangliosidosis
  - 10.2.5. Mucopolysaccharidosis
- 10.3. Acquired Diseases
  - 10.3.1. Hypertension
  - 10.3.2. Hematologic Alterations
  - 10.3.3. Vascular Accidents
- 10.4. Idiopathic Diseases
  - 10.4.1. Meningoencefalitis Granulomatosa
  - 10.4.2. Dysautonomia
  - 10.4.3. Acute Acquired Blindness Syndrome SARDS
- 10.5. Immune-Mediated Diseases
  - 10.5.1. Juvenile Cellulitis
  - 10.5.2. Immune-Mediated Retinitis
  - 10.5.3. Keratoconjunctivitis Sicca
  - 10.5.4. Myositis
    - 10.5.4.1. Masticatory Muscles
    - 10.5.4.2. Extraocular Muscles
  - 10.5.5. Uveodermatological Syndrome
- 10.6. Infectious Diseases
  - 10.6.1. Algae
  - 10.6.2. Bacterial
  - 10.6.3. Mycotic
  - 10.6.4. Parasitic
  - 10.6.5. Protozoa
  - 10.6.6. Rickettsia
  - 10.6.7. Viral
- 10.7. Metabolic Diseases
  - 10.7.1. Diabetes *Mellitus*
  - 10.7.2. Hypothyroidism
  - 10.7.3. Hyperadrenocorticism
- 10.8. Neoplasms
  - 10.8.1. Sine-Cavernous Syndrome
  - 10.8.2. Lymphoma
  - 10.8.3. Central Neoplasms
- 10.9. Nutritional Disorders
  - 10.9.1. Milk Substitute Alterations
  - 10.9.2. Vitamin Deficiencies
  - 10.9.3. Ocular Manifestations caused by Toxic Substance Administration
- 10.10. Ocular Manifestation of Systemic Disease in Felines
  - 10.10.1. Congenital and Developmental Diseases
  - 10.10.2. High Blood Pressure
  - 10.10.3. Hematologic Alterations
  - 10.10.4. Idiopathic Diseases
  - 10.10.5. Infectious Diseases
  - 10.10.6. Metabolic Diseases
  - 10.10.7. Neoplasms
  - 10.10.8. Nutritional Alterations
  - 10.10.9. Use of Toxic Medication





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*A program designed by  
the best, for the best: you"*

# 06 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.





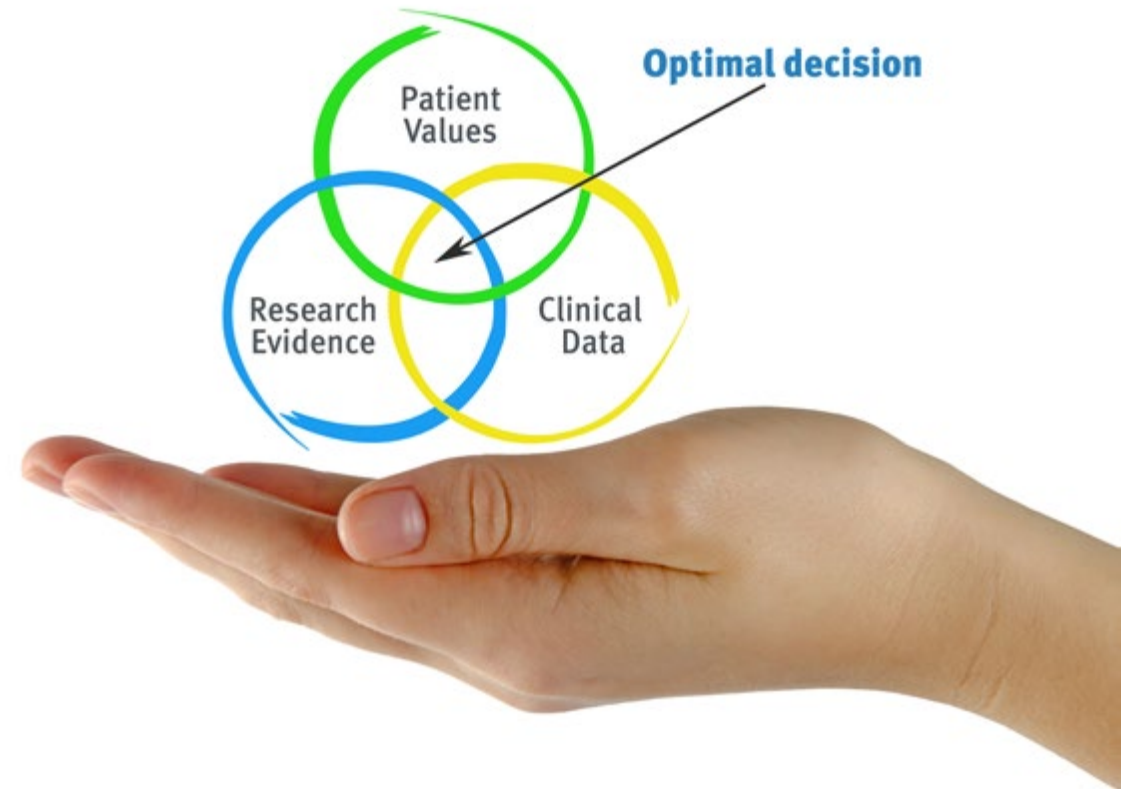
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## 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. Gervas, 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.

“

*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".

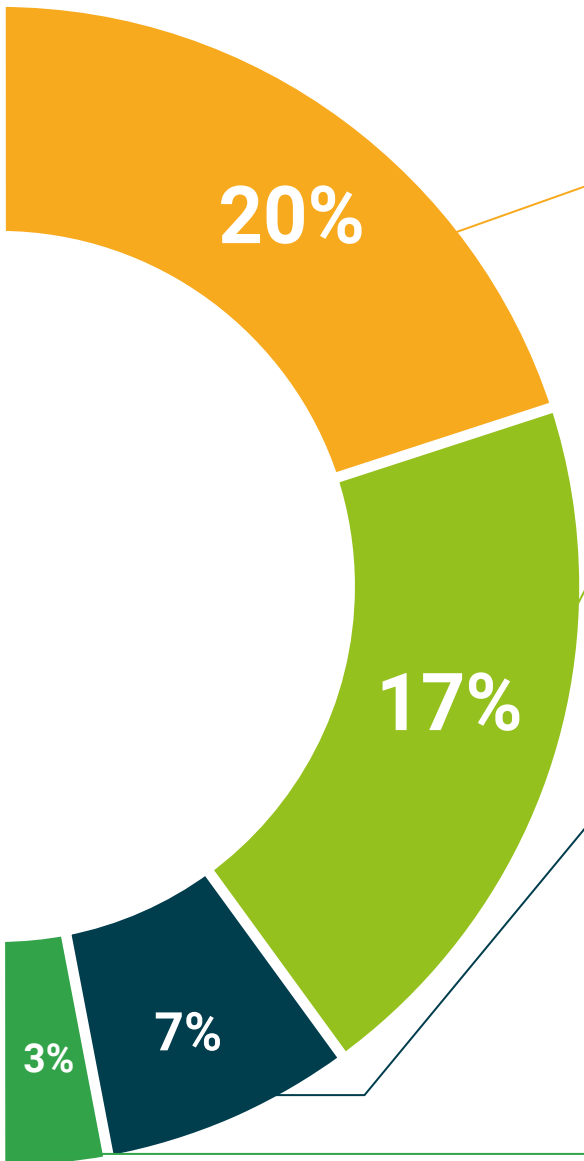


#### Additional Reading

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.



07

# Certificate

The Professional Master's Degree in Veterinary Ophthalmology in Small Animals guarantees students, in addition to the most rigorous and up to date education, access to a Professional Master's Degree 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 **Professional Master's Degree diploma in Veterinary Ophthalmology 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.

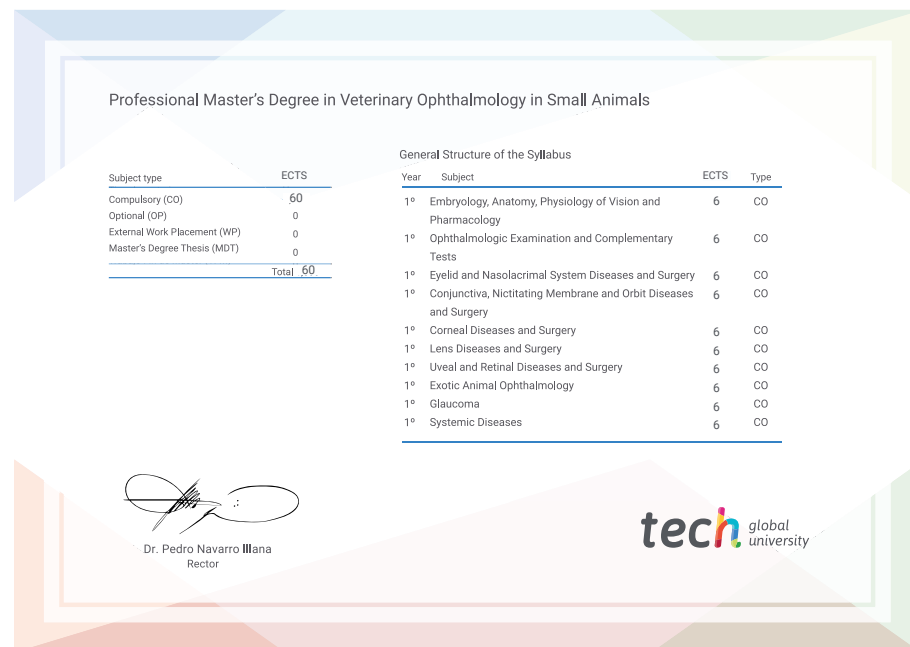
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Professional Master's Degree in Veterinary Ophthalmology in Small Animals**

Modality: **online**

Duration: **12 months**

Accreditation: **60 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.



**Professional Master's Degree**  
**Veterinary Ophthalmology**  
**in Small Animals**

- » Modality: **online**
- » Duration: **12 months**
- » Certificate: **TECH Global University**
- » Credits: **60 ECTS**
- » Schedule: **at your own pace**
- » Exams: **online**

Professional Master's Degree  
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in Small Animals

