

# Postgraduate Diploma

## Ruminant and Equine Production and Health





## Postgraduate Diploma Ruminant and Equine Production and Health

Course Modality: **Online**

Duration: **6 months.**

Certificate: **TECH Technological University**

**18 ECTS Credits**

Teaching Hours: **450 hours.**

Website: [www.techtitute.com/veterinary-medicine/postgraduate-diploma/postgraduate-diploma-ruminant-equine-production-health](http://www.techtitute.com/veterinary-medicine/postgraduate-diploma/postgraduate-diploma-ruminant-equine-production-health)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 18*

05

Methodology

---

*p. 24*

06

Certificate

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*p. 32*

# 01

# Introduction

The course aims to provide advanced and multidisciplinary training for professionals in the field of Animal Health in ruminants and equids. The Postgraduate Diploma develops the anatomy and physiology of the species of interest, focusing on the characteristics of each species from a pathophysiological point of view, directly related to animal health.

The **Postgraduate Diploma in Ruminant and Equine Production and Health** will contribute to the specialization of the veterinary professional in the aspects of nutrition and feeding of animal species of zotechnical and wildlife interest, in a context of health management from the *One Health* point of view.

A high-quality program that will drive you to the highest levels of competence in the industry.





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*A complete and total update in Ruminant and Equine Production and Health with the most complete and effective training program on the online educational market"*

In order to do a good job in the field, the professional must have a solid theoretical knowledge of anatomy, pathophysiology and therapeutics, which they already possess through their higher academic training. But university programs sometimes lack extended and practical training.

The Postgraduate Diploma develops the anatomy and physiology of the species of interest, focusing on the characteristics of each species from a pathophysiological point of view, directly related to animal health.

After completing this training, the veterinary professional will have developed a specialized, broad and interrelated vision of the anatomy and physiology of the animal species under study and will be able to understand in a simple and global way the processes that can affect these individuals.

Feeding in livestock and wildlife farms requires the optimal application of feeding procedures that allow the animal to obtain a balanced ration in terms of energy and nutrients. Therefore, it is essential to expand the principles governing the nutrition of different species, the nutritional value and characteristics of different foods, as well as the process of their preparation. This is so that the administrator or manager has the ability to make decisions and propose feeding techniques as part of their professional performance.

The general objective of this Postgraduate Diploma is that the professional develops a specialized knowledge of animal nutrition and feed. They will apply the concepts of good sanitary and agricultural practices, ensuring the quality and safety of the food consumed by animals, without disturbing the health and profitability derived from agricultural and hunting activities, with a focus on prevention and sanitary control.

Through studying this course, the student will gain satisfaction in being able to apply the theoretical knowledge they acquired in concrete practical cases.

This **Postgraduate Diploma in Ruminant and Equine Production and Health** offers you the advantages of a high-level scientific, teaching, and technological course. These are some of its most notable features:

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



*Join the elite, with this highly effective training and open new paths to help you advance in your professional progress"*

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*A complete training program that will allow you to acquire the most advanced knowledge in all the areas of intervention of a specialized veterinarian"*

Our teaching staff is made up of professionals from different fields related to this specialty. In this way, we ensure that we provide you with the training update we are aiming for. A multidisciplinary team of professionals trained and experienced in different environments, who will develop the theoretical knowledge in an efficient way, but above all, they will bring their practical knowledge from their own experience to the course: one of the differential qualities of this training.

This mastery of the subject matter is complemented by the effectiveness of the methodological design. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. This way, you will be able to study with a range of comfortable and versatile multimedia tools that will give you the operability you need in your training.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice: with the help of an innovative interactive video system, and learning from an expert, you will be able to acquire the knowledge as if you were actually dealing with the scenario you are learning about. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

*With the experience of working professionals and the analysis of real cases of success, in a high-impact training approach.*

*With a methodological design based on proven teaching techniques, this innovative course will take you through different teaching approaches to allow you to learn in a dynamic and effective way.*



# 02 Objectives

Our objective is to train highly qualified professionals for work experience. An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is materialized in helping professionals to reach a much higher level of competence and control. A goal that, in just a few months you will be able to achieve, with a high intensity and effective training.







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*If your objective is to broaden your skills set to include new paths of success and development, this is the course for you a training that aspires to excellence"*



## General Objectives

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- ♦ Establish the Anatomical Characteristics of the species of interest from a pathophysiological approach.
- ♦ Examine the physiological processes of the different apparatuses and organ systems of the different animal species.
- ♦ Develop a specialized, general, and specific vision of the Anatomy and Physiology of the Animal Species of interest.
- ♦ Analyze the relationships between the different organic systems and apparatuses.
- ♦ Develop technical and scientific knowledge used in animal nutrition and feeding.
- ♦ Implement strategies for optimal nutrition and feeding of the various species of economic, domestic, and wildlife importance.
- ♦ Establish the principles of good animal feeding practices.
- ♦ Analyze the main aspects of ruminant and equine production to obtain, in a profitable way, healthy products respecting the environment and animal welfare.
- ♦ Determine the infectious-contagious diseases of major interest in ruminants and equids, emphasizing epidemiological, pathogenic, clinical, diagnostic, and control aspects.
- ♦ Develop methodological skills to detect (diagnose), prevent, and combat the main diseases of importance in animal health in these species.
- ♦ Examine the main infectious and contagious diseases in ruminants and equines, highlighting those differential and characteristic aspects that define each type of pathological process.





## Specific Objectives

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### Module 1. Animal Anatomy and Physiology

- ♦ Develop a specialized vision of the anatomy and physiology of the animal species of interest.
- ♦ Examine the anatomical structures of the different apparatus and systems.
- ♦ Analyze the comparative anatomy of the different species.
- ♦ Directly relate the anatomical structures with the functionality and physiology of the process in which they are involved.
- ♦ Establish the anatomical-physiological basis to understand the pathological processes directly or indirectly involved in animal health.
- ♦ Deepen understanding of the physiological processes most frequently related to pathological processes.
- ♦ Apply the acquired knowledge to concrete cases.
- ♦ Consider animal health as a fundamental pillar of public health.

### Module 2. Animal Nutrition and Feed

- ♦ Analyze the different types of food and their importance in zootechnics.
- ♦ Know the principles of analysis and characteristics of nutritional components in animal feed.
- ♦ Examine the physiochemical processes by which animals obtain nutrients through food intake in the different stages of development.
- ♦ Implement the principles of feeding mechanisms of domestic species (monogastrics and ruminants) in each productive stage.
- ♦ Specify which are the most appropriate tools for the implementation of good practices in animal feeding.
- ♦ Analyze the tools used for the control and assurance of quality and safety of food for animal consumption.

### Module 3. Ruminant and Equine Production and Health

- ♦ Analyze the main aspects of ruminant and equine production to obtain, in a profitable way, healthy products respecting the environment and animal welfare.
- ♦ Determine the infectious-contagious diseases of major interest in ruminants and equids, emphasizing epidemiological, pathogenic, clinical, diagnostic, and control aspects.
- ♦ Develop methodological skills to detect (diagnose), prevent, and combat the main diseases of importance in animal health in these species.
- ♦ Examine the main infectious and contagious diseases in ruminants and equines, highlighting those differential and characteristic aspects that define each type of pathological process.



*A path to achieve specialization and professional growth that will propel you towards a greater level of competitiveness in the employment market"*

03

# Course Management

For our course to be of the highest quality, we are proud to work with a teaching staff of the highest level, chosen for their proven track record. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.





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*A path to achieve specialization and professional growth that will propel you towards a greater level of competitiveness in the employment market"*

## Management



### Dr. Ruiz Fons, José Francisco

- ♦ PhD from UCLM 2006.
- ♦ Degree in Veterinary Medicine (2002) from the University of Murcia.
- ♦ Member of the Spanish Society for the Conservation and Study of Mammals (SECEM) and the Wildlife Disease Association (WDA).
- ♦ Contracted Predoctoral FPU (2007) of the Ministry of Education and Science at the Institute of Research in Hunting Resources IREC (CSIC-UCLM-JCCM).
- ♦ Postdoctoral contract JCCM and Carlos III Institute of Health at The James Hutton Institute (Aberdeen, Scotland; 2007-2008) and at Neiker-Tecnalia (Derio, Biscay; 2008-2010).
- ♦ Contracted JAE-DOC CSIC at IREC (2010 to 2011).
- ♦ Supervision of 11 Master's Theses, 3 final Degree theses, 2 Doctoral Theses and 5 Doctoral Theses currently in progress.
- ♦ Lecturer in Animal Health, Epidemiology, Prevention, and Control of Diseases shared between Dogs, Cats, and Other Species and Livestock in the UCLM Professional Master's Degree "Basic and Applied Research in Hunting Resources" in the last 12 years.
- ♦ Lecturer in Professional Master's Degree in "Animal Medicine, Health, and Improvement" at the University of Cordoba in 2015-16. He has been invited speaker in more than 30 specialization courses for veterinarians, farmers, hunters, and public administration staff, and in conferences and seminars on aspects of the Health of Wild Species and Global Health.

## Professors

### Ranilla García, Jara

- ◆ Degree in Veterinary Medicine from the University of Leon..
- ◆ Degree in Veterinary Medicine by means of the Bachelor's Thesis modality. University of León
- ◆ Certificate of Pedagogical Aptitude. University of León
- ◆ Professional Master's Degree in Veterinary Research and Food Science and Technology, University of Leon.
- ◆ Postgraduate Diploma in Small Animal Surgery and Anesthesia. Autonomous University of Barcelona.
- ◆ Research Grant from the Institute of Zamora Studies "Florián de Ocampo" Zamora Provincial Council Zamora Provincial Council.
- ◆ Extensive experience in Emergency Medicine, Intensive Care, and Surgery.
- ◆ Extensive training in Anesthesia, Monitoring, and Mechanical Ventilation.
- ◆ Has worked in numerous Hospitals and Reference Centers.
- ◆ Regular Attendee to Courses and Congresses mostly related to his main area of interest, Soft Tissue Surgery, a field to which she is currently dedicated exclusively.

### Dr. Rosales Pérez, Mónica

- ◆ Ph.D. in Chemical-Biological Sciences.
- ◆ Degree in Pharmacobiological Chemistry.
- ◆ Postgraduate Studies in the area of Life Sciences.
- ◆ Professional Master's Degree in Basic and Applied Research in Hunting Resources from the Institute for Research in Hunting Resources-University of Castilla-La Mancha, Campus Ciudad Real (Spain).
- ◆ Professional Master's Degree in Microbiology, National Polytechnic Institute, Mexico City (Mexico)
- ◆ Professor, Department of Biotechnology, Biotechnology Engineering. Monterrey Technological Puebla (Mexico).
- ◆ Teaching courses in Chemistry, Genetics, Industrial Microbiology, Toxicology, Bioprocesses, and Industrial Microbiology and Bioprocesses Laboratory Development of Research and Social Service Projects. Coordinator of continuing education symposiums.
- ◆ Professor at the Swiss Institute of Gastronomy and Hotel Management. Puebla (Mexico).
- ◆ Taught the subject of Microbiology and Food Hygiene and Laboratory Practices in the Bachelor's Degree in Gastronomy and the Bachelor's Degree in Hotel and Restaurant Management. and the Professional Master's Degree in Bakery Production, Confectionery, and International Confectionery. She taught the course of Environmental Management in the Hospitality Industry.

### **Dr. Rodríguez Estévez, Vicente**

- ♦ Vicente Rodríguez Estévez has a degree in Veterinary Medicine (1995).
- ♦ PhD in Veterinary Medicine (2007) from the University of Cordoba (UCO),
- ♦ He covers different areas of Animal Production, from intensive Swine Production to extensive and organic Livestock Farming, including innovation and transfer in both systems.
- ♦ Research is oriented to the improvement of livestock systems in aspects related to quality, sustainability, and management, in an interdisciplinary way.
- ♦ 25 articles in International refereed journals, 21 of them in journals indexed in the ISI Web of Knowledge Database.
- ♦ 9 Technical Books (in addition to 7 Manuals) and 43 book Chapters, the edition of 1 book
- ♦ 63 contributions to congresses (with 2 Award-winning Communications and an invited paper in Lüneburg, Germany).
- ♦ Participation in 31 research projects and technical consultancy contracts, 2 first prize research awards and 1 second prize, organization of 2 congresses, 1 supervised doctoral thesis (in addition to 4 doctoral theses in progress), 11 supervised master's projects and 1 co-translated book.

### **Díaz Gaona, Cipriano**

- ♦ Degree in Veterinary Medicine, specializing in Animal Production and Economics.
- ♦ Phd in Veterinary Medicine from the University of Cordoba, for the work entitled "Organic Livestock as a management model for the Sierra de Grazalema Natural Park".
- ♦ Andrés Núñez de Prado National Prize for Research in Organic Agriculture and Livestock.
- ♦ Doctoral Courses carried out in the Department of Animal Production ("Organic Livestock: Management of Farms in Disadvantaged Areas"). Specialization in Animal Genetics and Reproduction (Master in Equine Technology).
- ♦ Honorary collaborator of the Department of Animal Production for 7 academic years. Participation as a teacher in 14 Postgraduate Postgraduate Certificates, 13 Non-regulated Postgraduate Certificates and more than 40 Courses in Non-University Public Centers.

- ♦ Participation in the writing of articles for journals and books on animal production
- ♦ 5 Communications in National Congresses on Animal Production.
- ♦ Participation in 25 Research Projects carried out in the Department of Animal Production.

### **Dr. Risalde Moya, M<sup>a</sup> Ángeles**

- ♦ PhD from the University of Cordoba in 2012 with International Mention and Extraordinary Doctorate Award.
- ♦ Degree in Veterinary Medicine with Extraordinary Award at the University of Cordoba (2006).
- ♦ Collaborator in 16 European, National, or Regional Research Projects (2 as Main Investigator) and 3 R&D contracts with companies (1 as Main Investigator). Teacher of undergraduate and master's degree classes at the Faculty of Veterinary Medicine of the University of Cordoba and supervisor of 4 Doctoral Theses (one of them with International Mention and Extraordinary Doctoral Prize).
- ♦ Publication of 57 Scientific Articles in JCR (84% in the first quartile), 14 in non-ISI journals, 2 books, 7 book chapters, and 1 European patent.
- ♦ Author of 122 Communications to Congresses with up to 8 awards for the Best Communication.
- ♦ Awarded in 2014 with the prize of the Fundación Caja Rural de Córdoba to the "Best R&D Project in the field of agri-food activity".
- ♦ Incorporation in the Department of Comparative Anatomy and Pathology at the University of Cordoba.
- ♦ Competitive postdoctoral contract from the Alfonso Martín Escudero Foundation to work at the University of Milan for two years, followed by a national competitive contract Juan de la Cierva incorporation at the Instituto de Investigación en Recursos Cinegéticos in Ciudad Real for another two years.



**Dr. Molina Hernández, Verónica**

- ♦ Phd from the University of Córdoba in the Biosciences and Agroalimentary Sciences Program.
- ♦ Degree in Biology from the University of Córdoba (2004).
- ♦ Researcher of the Juan de la Cierva National Program. Incorporation in the Department of Comparative Anatomy and Pathology of the University of Cordoba.
- ♦ Lecturer in the subjects of Cytology and Histology, General Pathological Anatomy, and Systematic Pathological Anatomy of the Veterinary Degree at the University of Cordoba.
- ♦ Predoctoral Fellow of the Ministry of Education and Science at the University of Cordoba (2007-2011). PhD from the University of Córdoba in the Biosciences and Agrifood Sciences Program (2013).
- ♦ Postdoctoral fellow on a Marie-Curie IEF Action of the European Commission at Queen's University Belfast (UK, 2014-2016) leading the European project "FLUKVAC".
- ♦ Hired Postdoctoral fellow in the European ERC Advanced project "HELIVAC" of the European Commission at Queen's University Belfast (UK, 2014-2014 and 2016-2016).
- ♦ Contracted by the competitive program of the Research Plan of the University of Cordoba (2016-2018) in charge of the European project "PARAGONE".
- ♦ Co-director of two doctoral theses defended in 2017 and 2018, a Master's thesis in 2017 and another one in progress and a Bachelor's thesis in 2019 and another one in progress.

**Dr. García Bocanegra, Ignacio**

- ♦ PhD in Veterinary Science
- ♦ Graduate of the European College of Zoological Medicine (ECZM) (Wildlife Population Health).
- ♦ Degree in Veterinary Medicine (2001) and in Food Science and Technology (2003).
- ♦ Master's degree in Animal Medicine, Health, and Breeding (2009).
- ♦ Research fellow (2002-2005) at the Department of Animal Health, University of Cordoba.
- ♦ Full Professor of the Department of Animal Health, University of Cordoba
- ♦ Study of the Epidemiology and Control of Infectious Diseases affecting Wild Animals and their interaction with Domestic species in the context of the research group AGR-149 of the University of Cordoba

**Dr. Cano Terriza, David**

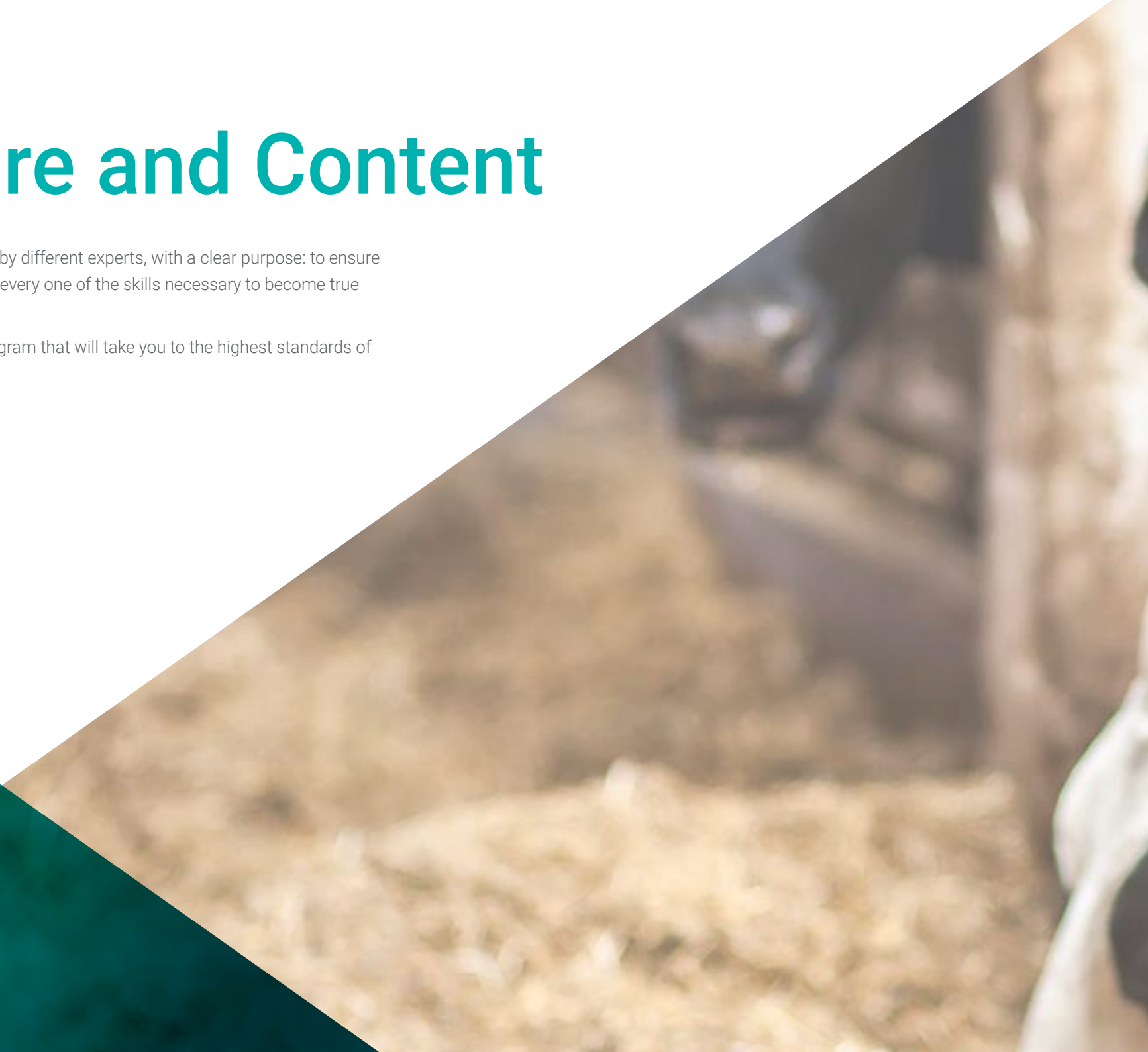
- ♦ PhD in Veterinary Medicine with the thesis entitled "Epidemiological study of Zoonotic Diseases from a One Health perspective" (Excellent Cum Laude) by the University of Cordoba (Spain) in 2018.
- ♦ Degree in Veterinary Medicine (2013)
- ♦ Official Professional Master's Degree in Animal Medicine, Health and Improvement (2014) from the University of Cordoba (Spain) with the Extraordinary End of Degree Award and Extraordinary End of Professional Master's Degree Award.
- ♦ Acting Substitute Professor of the Department of Animal Health of the University of Cordoba.
- ♦ Director of five Final Degree Projects and currently supervising three more.
- ♦ Qualified for animal experimentation (B accreditation according to the applicable standards for the protection of animals used for experimental and other scientific purposes, including teaching).

04

# Structure and Content

The contents have been developed by different experts, with a clear purpose: to ensure that our students acquire each and every one of the skills necessary to become true experts in this field.

A complete and well-structured program that will take you to the highest standards of quality and success.

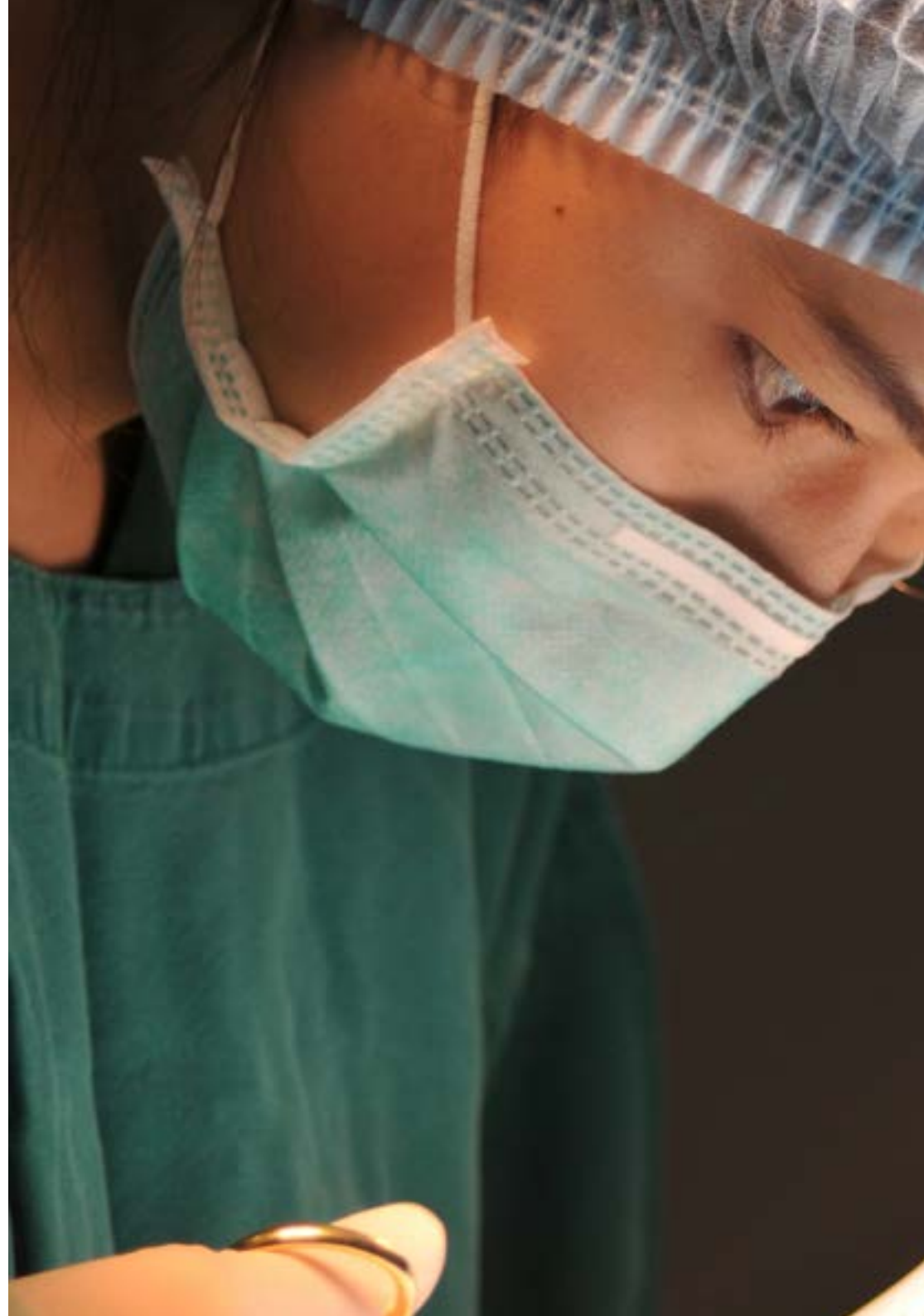



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*A comprehensive teaching program, structured in well-developed teaching units, oriented towards learning that is compatible with your personal and professional life"*

## Module 1. Animal Anatomy and Physiology

- 1.1. Anatomy of Ruminants.
  - 1.1.1. Locomotor System.
  - 1.1.2. Digestive System.
  - 1.1.3. Cardiovascular System.
  - 1.1.4. Respiratory System.
  - 1.1.5. Circulatory System.
  - 1.1.6. Reproductive System.
  - 1.1.7. Nervous System and Sense Organs.
- 1.2. Equine Anatomy.
  - 1.2.1. Locomotor System.
  - 1.2.2. Digestive System.
  - 1.2.3. Cardiovascular System.
  - 1.2.4. Respiratory System.
  - 1.2.5. Circulatory System.
  - 1.2.6. Reproductive System.
  - 1.2.7. Nervous System and Sense Organs.
- 1.3. Swine Anatomy.
  - 1.3.1. Locomotor System.
  - 1.3.2. Digestive System.
  - 1.3.3. Cardiovascular System.
  - 1.3.4. Respiratory System.
  - 1.3.5. Circulatory System.
  - 1.3.6. Reproductive System.
  - 1.3.7. Nervous System and Sense Organs.
- 1.4. Anatomy of Dogs and Cats.
  - 1.4.1. Locomotor System.
  - 1.4.2. Digestive System.
  - 1.4.3. Cardiovascular System.
  - 1.4.4. Respiratory System.
  - 1.4.5. Circulatory System.
  - 1.4.6. Reproductive System.
  - 1.4.7. Nervous System and Sense Organs.



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- 1.5. Anatomy of Birds.
    - 1.5.1. Locomotor System.
    - 1.5.2. Digestive System.
    - 1.5.3. Cardiovascular System.
    - 1.5.4. Respiratory System.
    - 1.5.5. Circulatory System.
    - 1.5.6. Reproductive System.
    - 1.5.7. Nervous System and Sense Organs.
  - 1.6. Neurophysiology.
    - 1.6.1. Introduction.
    - 1.6.2. The Neuron and The Synapse.
    - 1.6.3. Lower Motor Neuron, Upper Motor Neuron, and its Alterations.
    - 1.6.4. Autonomic Nervous System.
    - 1.6.5. Cerebrospinal Fluid and Blood-Brain Barrier.
  - 1.7. Cardiovascular and Respiratory Physiology.
    - 1.7.1. Introduction.
    - 1.7.2. Electrical Activity of the Heart. Electrocardiogram.
    - 1.7.3. Pulmonary and Systemic Circulation.
    - 1.7.4. Neuronal and Hormonal Control of Blood Volume and Blood Pressure.
    - 1.7.5. Respiratory Function: Pulmonary Ventilation.
    - 1.7.6. Gas Exchange.
  - 1.8. Physiology of the Gastrointestinal Tract and Endocrinology.
    - 1.8.1. Regulation of Gastrointestinal Functions.
    - 1.8.2. Secretions of the Digestive Tract.
    - 1.8.3. Non-Fermentation Processes.
    - 1.8.4. Fermentation Processes.
    - 1.8.5. Endocrine System.
  - 1.9. Renal Physiology.
    - 1.9.1. Glomerular Filtration.
    - 1.9.2. Water Balance.
    - 1.9.3. Acid-base Balance.

- 1.10. Reproduction Physiology.
  - 1.10.1. Reproductive Cycles.
  - 1.10.2. Gestation and Labor.
  - 1.10.3. Male Reproductive Physiology.

## Module 2. Animal Nutrition and Feed

- 2.1. Introduction to Animal Nutrition and Feed. Types of Food.
  - 2.1.1. Grazing.
  - 2.1.2. Silage.
  - 2.1.3. Feed.
  - 2.1.4. Agro-Industrial By-Products.
  - 2.1.5. Supplements.
  - 2.1.6. Biotechnological Products.
- 2.2. Food Analysis and Composition
  - 2.2.1. Water and Dry Material.
  - 2.2.2. Proximate Determination of Foods.
  - 2.2.3. Protein and Non-protein Nitrogen Analysis.
  - 2.2.4. Fiber Determination.
  - 2.2.5. Mineral Analysis.
- 2.3. Nutritional Value of Animal Feeds.
  - 2.3.1. Digestibility.
  - 2.3.2. Crude and Digestible Protein.
  - 2.3.3. Energy Content.
- 2.4. Nutrition and Digestion in Monogastric Animals.
  - 2.4.1. Digestive Processes in Swine.
  - 2.4.2. Digestive Processes in Poultry.
  - 2.4.3. Digestive Processes in Dogs and Cats.
  - 2.4.4. Prececal Digestion in Horses.
  - 2.4.6. Absorption and Detoxification

- 2.5. Nutrition and Digestion in Ruminants and other Herbivores.
  - 2.5.1. Dynamics of Digestion in Ruminants.
  - 2.5.2. Control and Modification of Rumen Fermentation.
  - 2.5.3. Alternative Digestion Sites.
  - 2.5.4. Digestion and Environment.
- 2.6. Absorption and Metabolism
  - 2.6.1. Metabolism of the Main Components of Food.
  - 2.6.2. Metabolism Control.
- 2.7. Animal Feeding.
  - 2.7.1. Nutritional Requirements of Maintenance.
  - 2.7.2. Nutritional Requirements During Growth.
  - 2.7.3. Nutritional Requirements During Reproduction.
  - 2.7.4. Lactation.
  - 2.7.5. Voluntary Feed Intake.

## Module 3. Ruminant and Equine Production and Health

- 3.1. Main Ruminant Production Systems
  - 3.1.1. Cattle and Small Ruminants
  - 3.1.2. Production Systems: Intensive and Extensive
  - 3.1.3. Main Breeds and Productions: Meat and Milk
  - 3.1.4. Reproduction, Management and Feeding
  - 3.1.5. Facilities and Equipment
  - 3.1.6. Animal Hygiene and Welfare
- 3.2. Main Equine Production Systems
  - 3.2.1. The Equine Sector
  - 3.2.2. Production Systems
  - 3.2.3. Main Breeds and Productions: Meat and Sport
  - 3.2.4. Reproduction, Management and Feeding
  - 3.2.5. Facilities and Equipment
  - 3.2.6. Animal Hygiene and Welfare

- 3.3. Ruminant and Equine Necropsy
  - 3.3.1. Equipment and Instruments
  - 3.3.2. Medical History
  - 3.3.3. External Examination
  - 3.3.4. Orderly and Systematic Necropsy
  - 3.3.5. Sample Collection
  - 3.3.6. Completion of the Necropsy Report
  - 3.3.7. Disposal of the Corpse and Disinfection of Instruments
- 3.4. Main General Infectious and Contagious Diseases in Ruminants
  - 3.4.1. Foot and Mouth Disease
  - 3.4.2. Bovine Viral Diarrhea
  - 3.4.3. Bluetongue
  - 3.4.4. Mammitis
  - 3.4.5. Contagious Agalaxia of Small Ruminants
  - 3.4.6. Piroplasmiasis
- 3.5. Main Respiratory Processes in Ruminants
  - 3.5.1. TB.
  - 3.5.2. Infectious Bovine Rhinotracheitis
  - 3.5.3. Pasteurellosis Bovine Hemorrhagic Septicemia
  - 3.5.4. Ovine Osteoarthritis
  - 3.5.5. Bronchopulmonary Nematodosis
- 3.6. Main Digestive Processes in Ruminants
  - 3.6.1. Neonatal Diarrhea Syndrome
  - 3.6.2. Enterotoxemias
  - 3.6.3. Paratuberculosis
  - 3.6.4. Protozoosis
  - 3.6.5. Helminthiasis
- 3.7. Main Reproductive Processes in Ruminants
  - 3.7.1. Bovine Brucellosis and Small Ruminant Brucellosis
  - 3.7.2. Ovine Enzootic Abortion
  - 3.7.3. Q Fever
  - 3.7.4. Toxoplasmosis
  - 3.7.5. Neosporosis
- 3.8. Main Cutaneous Processes in Ruminants
  - 3.8.1. Pedero
  - 3.8.2. Bovine Hypodermosis
  - 3.8.3. Ruminant Mange
  - 3.8.4. Miasis
  - 3.8.5. Tick Infestation
- 3.9. Main Nervous Processes in Ruminants
  - 3.9.1. Maedi-visna and Arthritis-encephalitis Caprinae
  - 3.9.2. Transmissible Spongiform Encephalopathies
  - 3.9.3. Clostridiosis and Neurotoxic Diseases
  - 3.9.4. Listeriosis
  - 3.9.5. Cerebrocortical Necrosis
- 3.10. Main Equine Diseases
  - 3.10.1. Equine Rhinopneumonitis
  - 3.10.2. Equine Influenza
  - 3.10.3. Equine Mumps
  - 3.10.4. Equine Rhodococcosis
  - 3.10.5. Infectious Endometritis
  - 3.10.6. Equine Encephalitis
  - 3.10.7. Strongylosis

05

# Methodology

This training provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used 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 Re-learning, 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

In a given clinical situation, what would you do? 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 abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you can 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 potential or because of its uniqueness or rarity. It is essential that the case be based on current professional life, trying to recreate the real conditions in the 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 achieve the assimilation of concepts, but also a development of their mental capacity through exercises to evaluate real situations and the application of knowledge.
2. The learning process has a clear focus on 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.



## Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

Our 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, which represent a real revolution with respect to simply studying and analyzing 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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology we have trained more than 65,000 veterinarians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Re-learning 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 to success.*

In our program, learning is not a linear process, but rather a spiral (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by our learning system is 8.01, according to the highest international standards.



In this program you will have access to the best educational material, prepared with you in mind:



### Study Material

All the teaching materials are specifically created for the course by specialists who teach on 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.



### Latest Techniques and Procedures on Video

We bring you closer to the latest Techniques, to the latest Educational Advances, to the forefront of current Veterinary Techniques and Procedures. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



### 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.

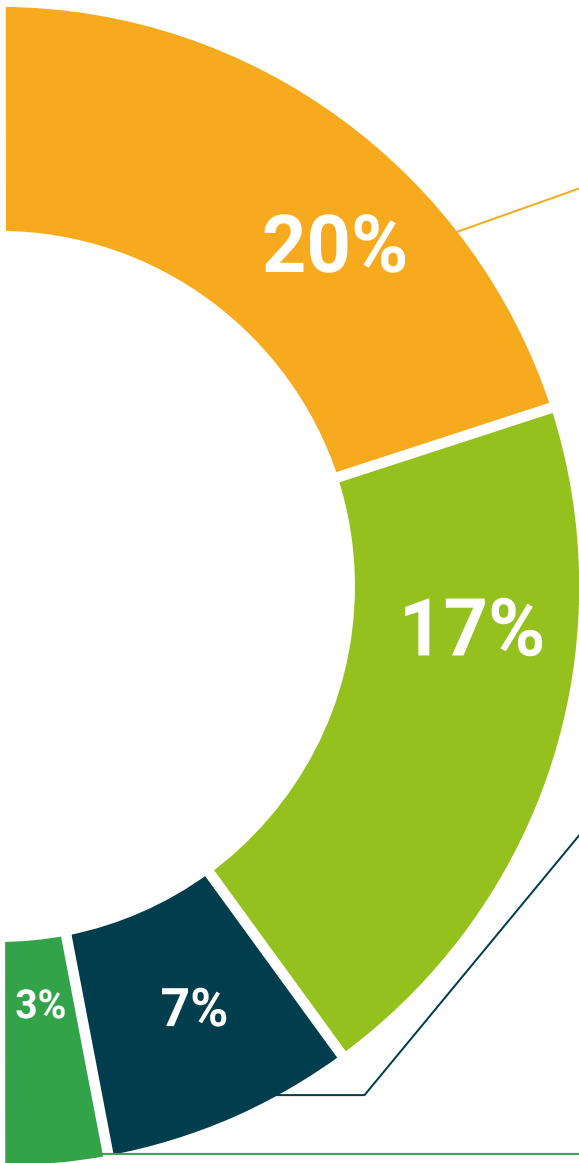
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



### Additional Reading

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





### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



### Testing & Re-Testing

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your 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 our difficult future decisions.



### Quick Action Guides

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.



# 06 Certificate

Through a different and stimulating learning experience, you will be able to acquire the necessary skills to take a big step in your training. An opportunity to progress, with the support and monitoring of a modern and specialized university, which will propel you to another professional level.





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*Include in your training a Postgraduate Diploma in Ruminant and Equine Production and Health: a highly qualified added value for any professional in this area"*

This **Postgraduate Diploma in Ruminant and Equine Production and Health** contains the most complete and up-to-date scientific program on the market.

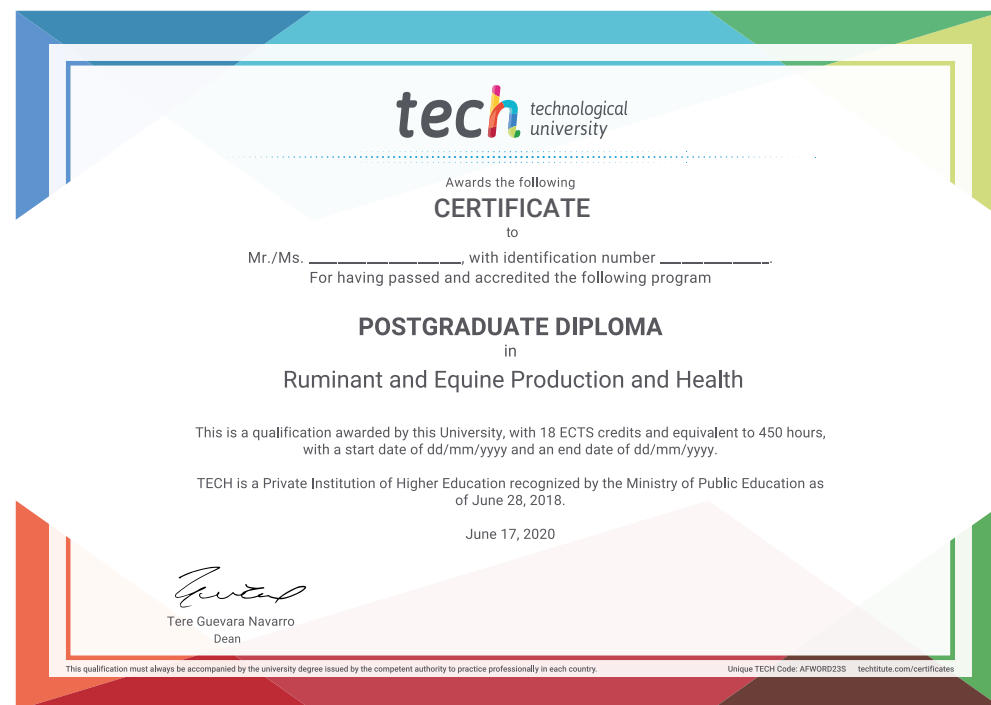
After students have passed the assessments, they will receive their **Postgraduate Diploma** issued by **TECH Technological University** and sent by certified mail\*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional from career evaluation committees.

Title: **Postgraduate Diploma in Ruminant and Equine Production and Health**

ECTS: **18**

Official Number of Hours: **450**



\*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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



**Postgraduate Diploma**  
Ruminant and Equine  
Production and Health

Course Modality: Online

Duration: 6 months.

Certificate: TECH Technological University

18 ECTS Credits

Teaching Hours: 450 hours.

# Postgraduate Diploma

## Ruminant and Equine Production and Health

