

# Postgraduate Certificate

## Animal Anatomy and Physiology





## Postgraduate Certificate Animal Anatomy and Physiology

Course Modality: Online

Duration: 6 weeks

Certificate: TECH - Technological University

6 ECTS Credits

Teaching Hours: 150 hours.

Website: [www.techitute.com/veterinary-medicine/postgraduate-certificate/animal-anatomy-physiology](http://www.techitute.com/veterinary-medicine/postgraduate-certificate/animal-anatomy-physiology)

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# 01

# Introduction

The content of this program also establishes the anatomical and physiological basis of animal specialties in a way that is easily applicable to daily practice from the animal health approach, which is closely related to Public Health.

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 Animal Nutrition and Physiology 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 Certificate 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.

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 Certificate in Animal Anatomy and Physiology** offers you the advantages of a high-level scientific, teaching, and technological course. These are some of its most notable features:

- ◆ The 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.
- ◆ Autonomous 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.
- ◆ 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 finishing the course.



*Join the elite, with this highly effective training 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.

The efficiency of the methodological design of this Professional Master's Degree, enhances the student's understanding of the subject. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. In this way, you will be able to study with a range of easy-to-use and versatile multimedia tools that will give you the necessary skills you need for your specialization.

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 success stories, in a high-impact training.*

*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.*

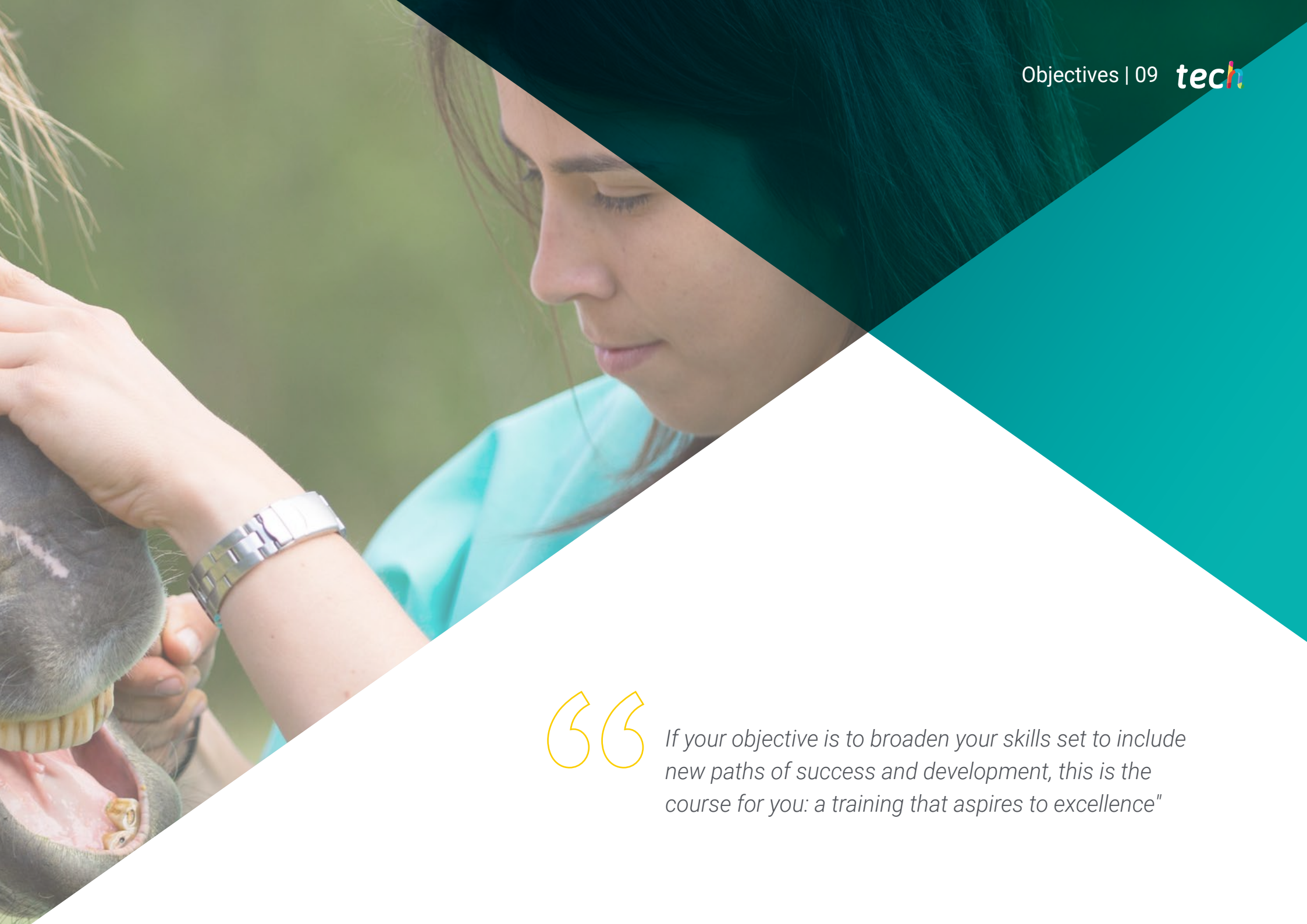


# 02 Objectives

Our objective is to train highly qualified professionals for the working 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 focus
- 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



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





## Specific Objectives

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- ◆ 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 in 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.

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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*Leading professionals in the field have come together to teach you the latest advances in Animal Anatomy and Physiology”*

## 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 Leon
- ◆ Certificate of Pedagogical Aptitude. University of Leon
- ◆ 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 he is currently dedicated exclusively



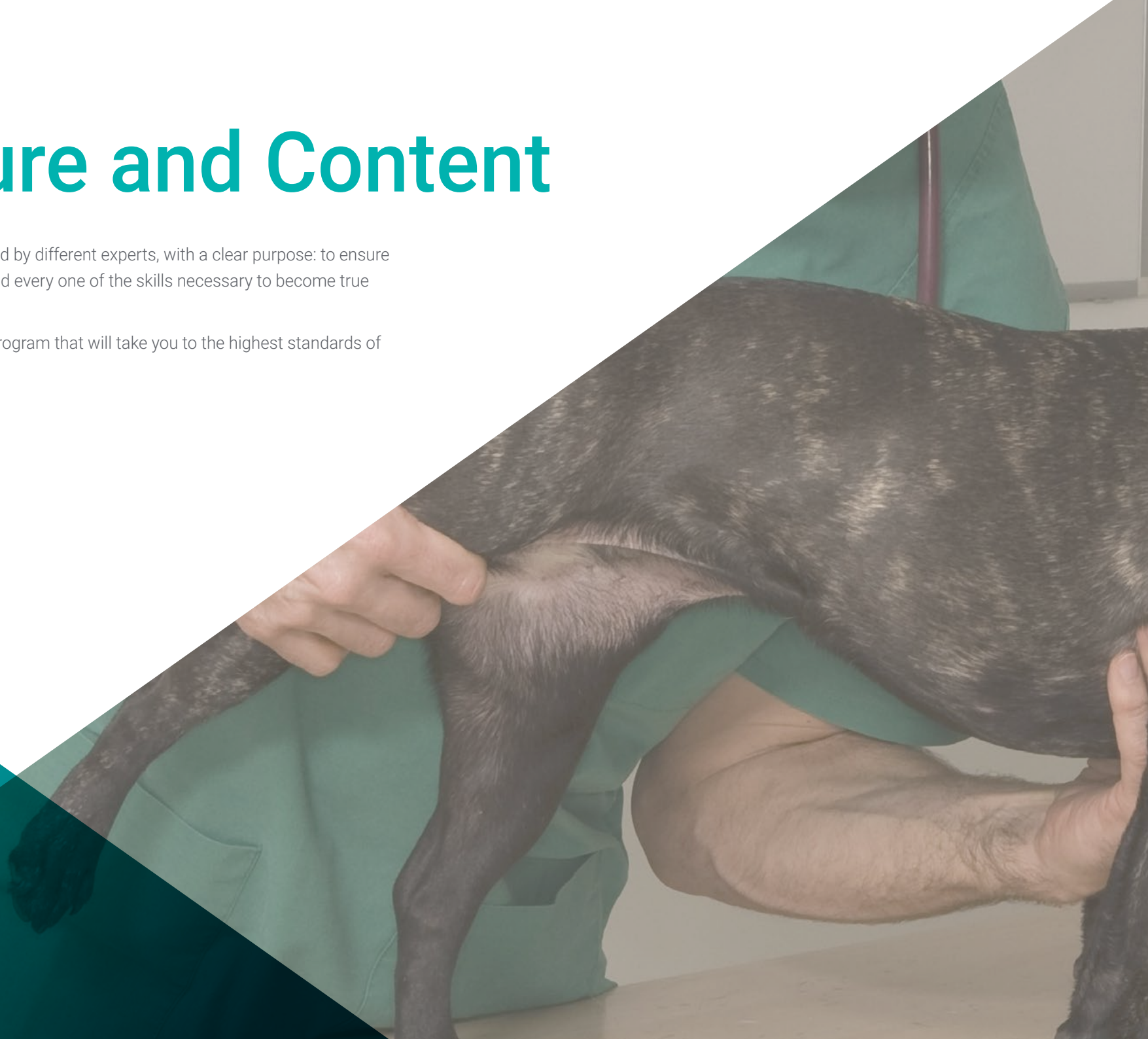
*An impressive teaching staff, made up of professionals from different areas of expertise, will be your teachers during your training: A unique opportunity not to be missed"*

# 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. Urinary 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. Urinary 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. Urinary 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. Urinary System.
  - 1.4.6. Reproductive System
  - 1.4.7. Nervous System and Sense Organs
- 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. Urinary 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-fermentative 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

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 Certificate in Animal Anatomy and Physiology: a highly qualified added value for any professional in this area"*

This **Postgraduate Certificate in Animal Anatomy and Physiology** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH - Technological University** via tracked delivery\*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the **Postgraduate Certificate**, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professionals career evaluation

Title: **Postgraduate Certificate in Animal Anatomy and Physiology**

ECTS: **6**

Official Number of Hours: **150**



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

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



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**Physiology**

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