

# Postgraduate Certificate

## Cardiorespiratory Disorders in Small Animals





## Postgraduate Certificate Cardiorespiratory Disorders in Small Animals

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/pk/veterinary-medicine/postgraduate-certificate/cardiorespiratory-disorders-small-animals](http://www.techtute.com/pk/veterinary-medicine/postgraduate-certificate/cardiorespiratory-disorders-small-animals)

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# 01

# Introduction

The cardiovascular and respiratory systems of small animals often suffer from alterations that, if poorly diagnosed or treated, can be life-threatening. This makes the study and comprehension of the behavior of these systems play a relevant role in small animal veterinary clinics, as does the management of various related pathologies.



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*The knowledge acquired through this program provides the student with comprehensive, practical and up-to-date education in a discipline that is fundamental for the practice of the veterinary profession"*

This program will explain how to interpret the clinical signs of patients and how to make a systematic, evidence-based diagnosis in which value is given both to diagnostic tests as well as the veterinarian's knowledge of the corresponding interpretation and its correlation with clinical signs.

In the cardiovascular system we can find different types of disorders: structural, mechanical, electrophysiological, etc. Therefore, the different tests for the diagnosis of each type of disorder and their corresponding therapy to achieve patient stabilization will be explained. Therefore, we will discuss its physiology and pathophysiology, which will in turn allow us to subsequently build our clinical practice based on this knowledge.

The approach will be the same with regard to the respiratory system. From knowledge acquired on the physiology and pathophysiology of this system, we will approach the different disorders that we find, taking into account the notable differences that exist in the different sections of this system.

The teaching staff of this Postgraduate Certificate is made up of specialists from within different areas of internal medicine with extensive clinical experience. These faculty members have received accreditation as specialists in different fields such as cardiology, ophthalmology, diagnostic imaging, dermatology and oncology, and have collaborated with one another in veterinary specialty centers. In addition to providing quality clinical work, some of these experts actively participate in various research projects parallel to their teaching and clinical activities.

The topics covered in this program have been selected to offer complete, up-to-date and quality specialization in internal medicine, thereby providing students with knowledge that will allow them to safely deal with cases and be able to carry out adequate follow-up, monitoring and therapeutic procedures.

This **Postgraduate Certificate in Cardiorespiratory Disorders in Small Animals** contains the most complete and up-to-date educational program on the market. Its most important features include:

- ♦ Case studies presented by experts in Cardiorespiratory Disorders in Small Animals
- ♦ Graphic, schematic and practical contents created to provide scientific and practical information on those disciplines that are essential for professional development.
- ♦ Latest information on Cardiorespiratory Disorders in Small Animals
- ♦ Practical exercises where self-assessment can be used to improve learning.
- ♦ Special emphasis on innovative methodologies in Cardiorespiratory Disorders in Small Animals
- ♦ 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



*Each chapter is accompanied by clinical cases that aim to incorporate the knowledge conveyed and includes activities that will allow students to assess their progress"*

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*In this program, you will deal with Cardiorespiratory Disorders in Small Animals in a specific way, using a systematic methodology, to carry out in-depth studies of the pathophysiology of these processes as well as of diagnostic protocols, therapeutics, monitoring and control procedures for these patients”*

It includes, in its Teaching staff, Professionals belonging to the veterinary field, who pour into this training the experience of their work, in addition to recognized Specialists from Reference Societies and Prestigious Universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive learning programmed to train in real situations.

This program is designed around Problem-Based Learning, whereby the specialist must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts Certificate in Cardiorespiratory Disorders in Small Animals and with extensive experience.

*Upon completion of the program, students will have obtained knowledge that is essential for professional practice, whether they choose to exercise in a clinical, academic or research capacity.*

*A high-level Postgraduate Certificate through which you will achieve professional success.*



# 02 Objectives

The Postgraduate Certificate in Cardiorespiratory Disorders Disease in Small Animals is designed to facilitate the performance of the veterinary professional with the latest advances and most innovative procedures in the field.





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*This Postgraduate Certificate is organized in such a way that will allow for logical and intuitive in-depth study as well as the consolidation of diagnostic, therapeutic and follow-up protocols"*



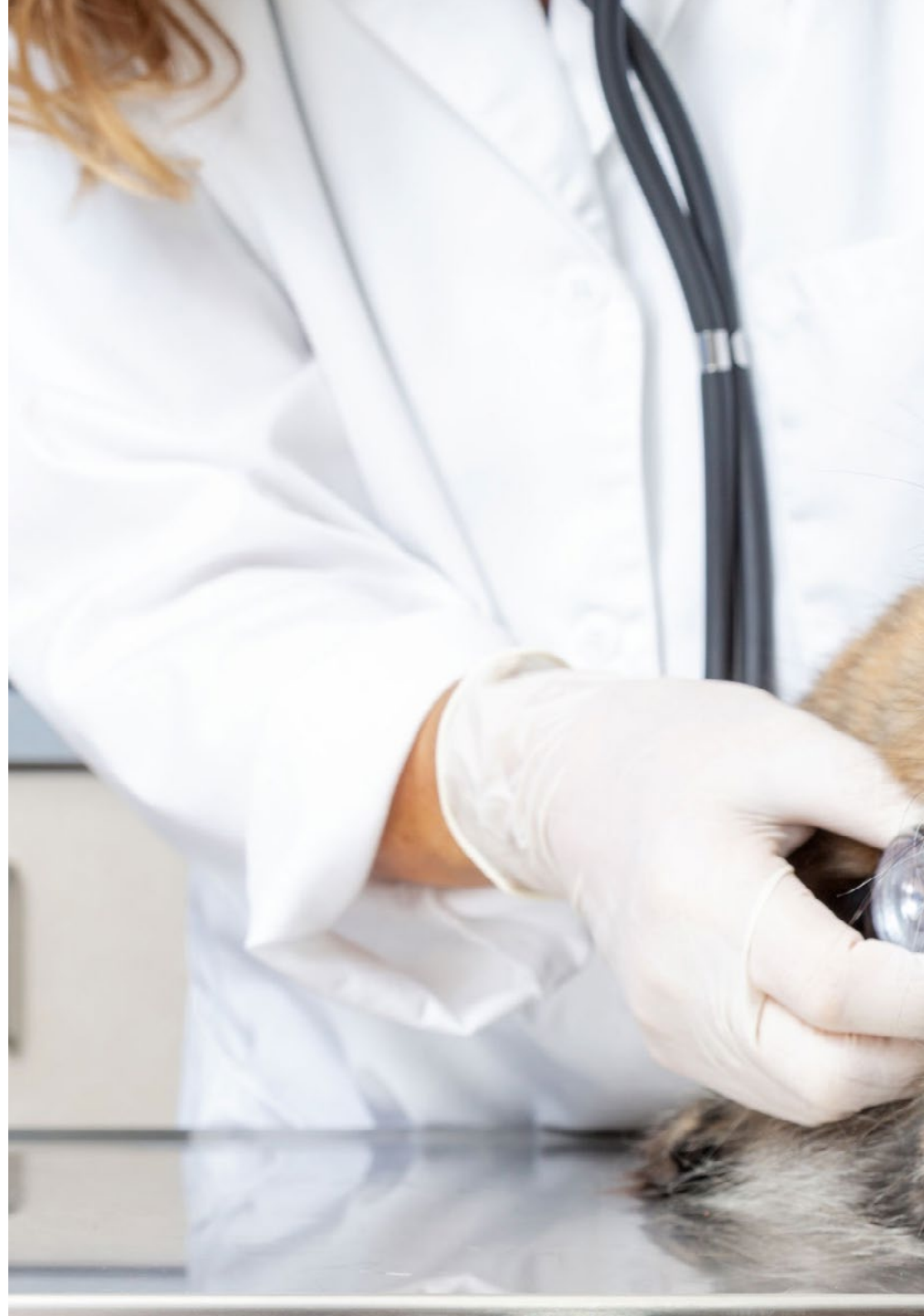
## General Objectives

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- Understand the physiology of the immune system
- Identify clinical signs associated with cardiorespiratory diseases as well as decision-making when selecting diagnostic tests
- Possess adequate knowledge and decision-making skills when dealing with pharmacological therapeutics applied to these organ systems

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*This Postgraduate Certificate is unique in its category, which will allow students to acquire specialized knowledge in order to offer high-quality internal medicine services to clients and patients"*





## Specific Objectives

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- ♦ Analyze and describe pathophysiological mechanisms of different diseases
- ♦ Identify the different diagnostic tests available for these two organ systems
- ♦ Adapt pharmacological therapy to specific condition of cardiorespiratory patient
- ♦ Identify clinical symptomatology of different cardiorespiratory diseases
- ♦ Accurately recognize different pulmonary radiographic patterns.
- ♦ Interpret echocardiographic images
- ♦ Propose a methodology for the treatment of different cardiorespiratory pathologies
- ♦ Establish management procedure for patient with heart failure or acute dyspnea

03

# Course Management

The program includes in its teaching staff renowned renowned professionals who have joined forces to offer you this high-level program.





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*Our teaching team, experts in  
Cardiorespiratory Disorders in Small  
Animals, will help you achieve success in  
your profession"*

## Management



### Ms. Pérez-Aranda Redondo, María

- ♦ Head of the Dermatology Service at Simbiosis Center for Veterinary Specialties Veterinarian at Aljarafe Norte Veterinary Center
- ♦ In charge of the Dermatology and Diagnostic Cytology service August 2017 - October 2019
- ♦ Veterinary clinic at the veterinary center Canitas in Sevilla Este Responsible for the Dermatology and Cytological Diagnostic Service of all Canitas Veterinary Centers April 2015 - July 2017
- ♦ Residency at the Dermatology Department of Veterinary Clinic Hospital - Autonomous University of Barcelona
- ♦ March 16 - March 27, 2015. Veterinarian at "Centro Veterinario Villarrubia" November 2014 - April 2015
- ♦ Official internship at the small animal unit of the Clinical Veterinary Hospital of the University of Cordoba, October 2013 - October 2014
- ♦ Honorary collaborator of the Department of Animal Medicine and Dermatological Surgery with Dr. Pedro Ginel Pérez. Student collaborator of the Department of Animal Medicine and Dermatological Surgery with Professor Dr. Pedro Ginel Pérez during the academic periods: 2010-2011, 2011-2012 and 2012-2013
- ♦ Student intern at the Veterinary Clinic Hospital of the University of Cordoba during the 2011-2012 and 2012-2013 academic periods



### **Mr. Usabiaga Alfaro, Javier**

- ♦ Bachelor's Degree in Veterinary Medicine from the University Alfonso X El Sabio (UAX); collaborating student at the University Veterinary Hospital UAX; rotated through all services of the center (Internal Medicine, Surgery, Anesthesia, Diagnostic Imaging, Emergency and Hospitalization)
- ♦ Master's Degree in Small Animal Medicine and Emergency Medicine from AEVA in 2013
- ♦ Master's Degree in Small Animal Medicine and Master's Degree in Small Animal Clinical Ultrasound, from Improve International, where he learned from veterinarians of great impact and world reputation who were also members of the American College and/or European College of Veterinary Studies in 2016 and 2017
- ♦ In 2018 he obtained the Certificate of General Practitioner in Small Animal Medicine (GPCert SAM), awarded by the International School of Veterinary Postgraduate Studies (ISVPS)
- ♦ Received his GPCert in Ultrasound from the ISVPS in 2020
- ♦ Obtained the title of the XXXIII National and XXX International Endoscopy Course from the Jesús Usón Minimally Invasive Surgery Center, Cáceres
- ♦ Postgraduate course in Diagnostic Imaging, Improve International Postgraduate Diploma in Surgery and Anaesthesia of Small Animals from the Autonomous University of Barcelona (UAB)
- ♦ Postgraduate course in Small Animal Surgery offered by the Instituto Veterinario I-Vet

## Professors

### Dr. Monge Utrilla, Óscar

- ♦ Cardiology, Diagnostic Imaging and Endoscopy, KITICAN Group, Madrid (currently)
- ♦ Degree in Veterinary Medicine, Universidad Complutense de Madrid 2017
- ♦ GPCert Cardiology IVSPS 2017
- ♦ Degree Course "Specialist Course in Veterinary Hospital Clinic", University of León 2018
- ♦ Professional Master's Degree in "Veterinary Anesthesiology", TECH Technological University. 2021
- ♦ In-house training in cardiology and respiratory medicine at Grupo Veterinario Kitican
- ♦ Veterinary Intern/Resident at the Veterinary Hospital of the University of León Faculty of Veterinary Medicine 2018
- ♦ Veterinarian at the Emergency Department of the Surbatán Veterinary Clinic 2018
- ♦ Veterinarian at the Emergency Department and in charge of the Cardiology Department at El Retiro Veterinary Hospital 2018
- ♦ Veterinarian at the Emergency Department and the Cardiology Department at Majadahonda Veterinary Hospital 2019
- ♦ Cardiology, Ultrasound and Outpatient Endoscopy for Coromoto Diagnostic Imaging, Sinergia 2020







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*Our teaching team will provide you with all their knowledge so that you are up to date with the latest information on the subject”*

# 04

# Structure and Content

The syllabus has been designed by the best professionals in the Cardiorespiratory Disorders in Small Animals sector who have extensive experience and recognized prestige in the profession, are backed by the volume of cases reviewed, studied, and diagnosed, and possess extensive knowledge of new technologies applied to veterinary medicine.





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*We have the most complete and up-to-date academic program in the market. We strive for excellence and for you to achieve it too"*

## Module 1. Cardiorespiratory Disorders

- 1.1. Cardiorespiratory Physiology
  - 1.1.1. Cardiovascular System Physiology
  - 1.1.2. Physiology of the Respiratory System
  - 1.1.3. Pathophysiology of Heart Failure
- 1.2. Cardiorespiratory System Examination
  - 1.2.1. Anamnesis and Physical Examination
  - 1.2.2. Palpation of Femoral Pulse
  - 1.2.3. Respiratory Pattern
  - 1.2.4. Cardiac Auscultation
  - 1.2.5. Pulmonary auscultation
- 1.3. Thoracic Radiography I
  - 1.3.1. Fundamentals of Thoracic Radiology
  - 1.3.2. Interstitial Pattern
  - 1.3.3. Alveolar Pattern
  - 1.3.4. Bronchial Pattern
  - 1.3.5. Vascular and Mixed Pattern
  - 1.3.6. Cardiac Silhouette Assessment
  - 1.3.7. VHS, VLAS and other Cardiac Measurements in Thoracic Radiography
- 1.4. Electrocardiography
  - 1.4.1. Guidelines for Electrocardiographic Interpretation
  - 1.4.2. Tachyarrhythmias
  - 1.4.3. Bradyarrhythmias and Conduction Disturbances
- 1.5. Echocardiography
  - 1.5.1. Fundamentals of Echocardiography
  - 1.5.2. Echocardiographic Anatomy (B-mode and M-mode)
  - 1.5.3. Pulsed, Continuous, Color, and Tissue Doppler
- 1.6. Diagnostic Tests of the Respiratory System
  - 1.6.1. Rhinoscopy and Pharyngoscopy
  - 1.6.2. Bronchoscopy
  - 1.6.3. Pulmonary CT





- 1.7. Cardiovascular Diseases I
  - 1.7.1. Chronic Degenerative Mitral and Tricuspid Valve Disease
  - 1.7.2. Canine and Feline Dilated Cardiomyopathy
  - 1.7.3. Canine and Feline Hypertrophic Cardiomyopathy
  - 1.7.4. Restrictive Cardiomyopathy
  - 1.7.5. Arrhythmogenic Right Ventricular Cardiomyopathy
- 1.8. Cardiovascular Diseases II
  - 1.8.1 Pulmonary Stenosis
  - 1.8.2 Subaortic Stenosis
  - 1.8. 3 Patent Ductus Arteriosus
  - 1.8.4 Valvular Dysplasias
  - 1.8.5 Tetralogy of Fallot
  - 1.8. 6 Systemic and Pulmonary Hypertension
  - 1.8. 7 Management of Congestive Heart Failure
- 1.9. Respiratory Diseases I
  - 1.9.1. Rhinitis and Brachiocephalic Syndrome
  - 1.9.2. Tracheal Stenosis
  - 1.9.3. Chronic Bronchitis and Feline Asthma
  - 1.9.4. Pneumonias
  - 1.9.5. Pulmonary Fibrosis
  - 1.9.6. Pulmonary Neoplasms
- 1.10. Respiratory Diseases II
  - 1.10.1. Diseases of the Pleura and Pleural Space
  - 1.10.2. Dirofilariasis and Pulmonary Thromboembolism
  - 1.10.3. Management Dyspneic Patients



*This program allows you to combine your professional and work activities so that you can advance your career in a comfortable and practical way"*

# 05 Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





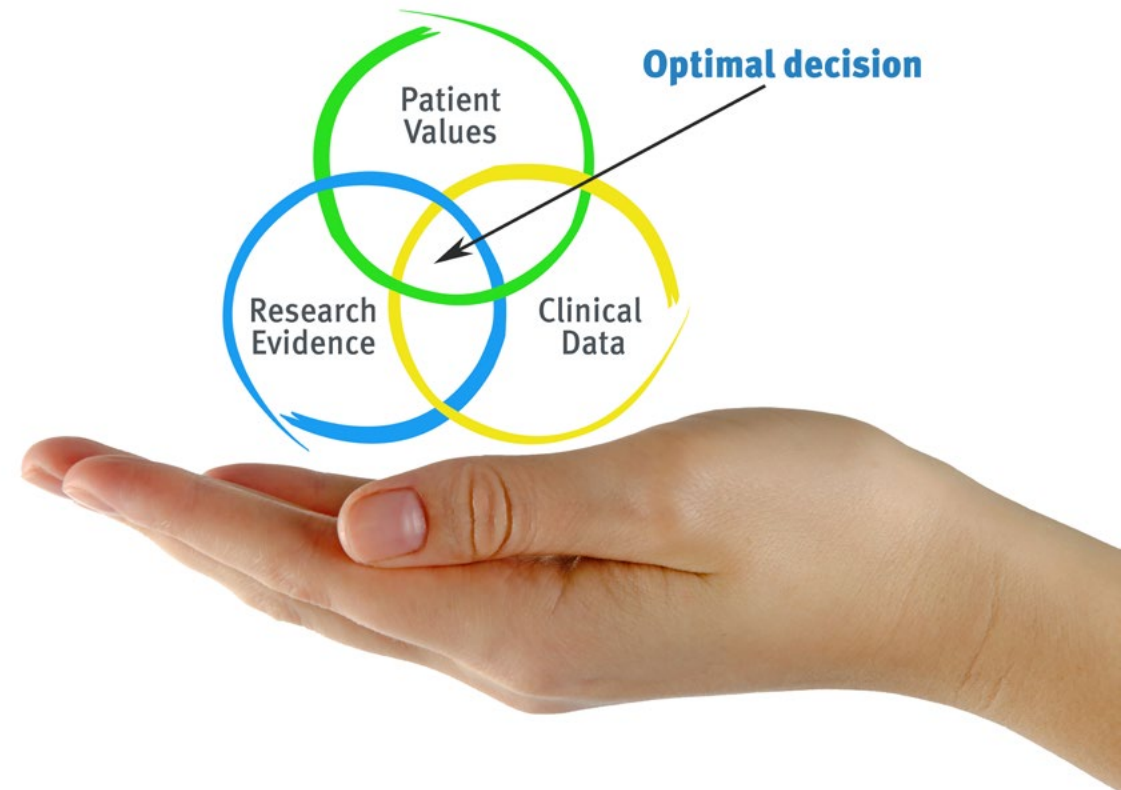
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, in an attempt to recreate the actual conditions in a veterinarian's professional practice.



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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

The effectiveness of the method is justified by four fundamental achievements:

1. Veterinarians who follow this method not only manage to assimilate concepts, but also develop their mental capacity through exercises to evaluate real situations and knowledge application
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. The feeling that the effort invested is effective becomes a very important motivation for veterinarians, which translates into a greater interest in learning and an increase in the time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.



*Veterinarians will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*

At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

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

*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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

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



This program offers the best educational material, prepared with professionals in mind:



### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



### Latest Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current and procedures of veterinary techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



### Interactive Summaries

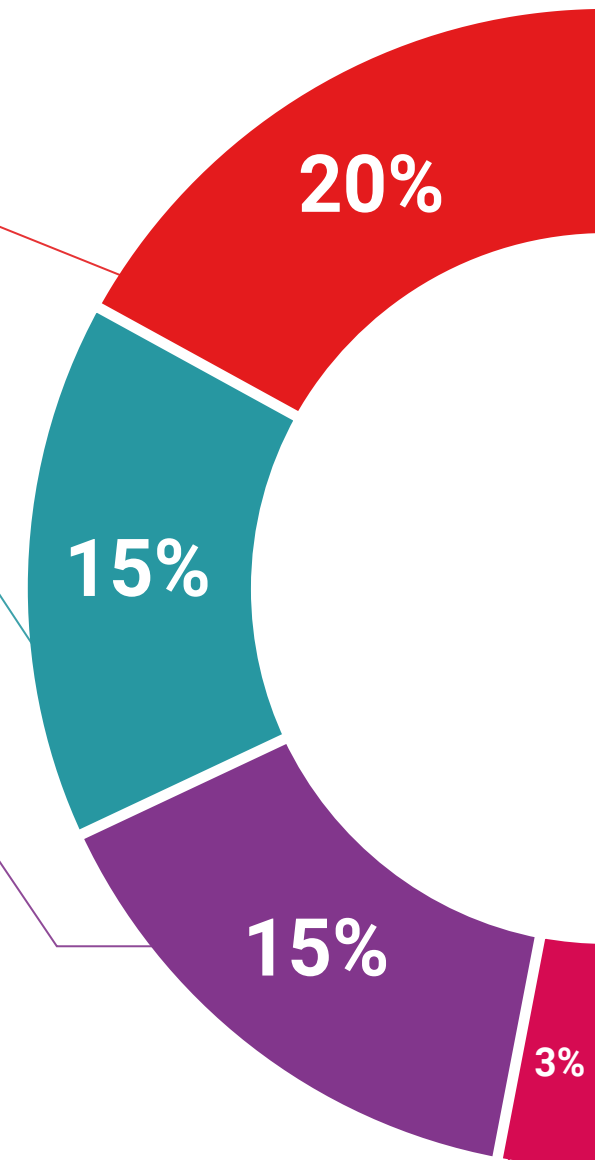
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

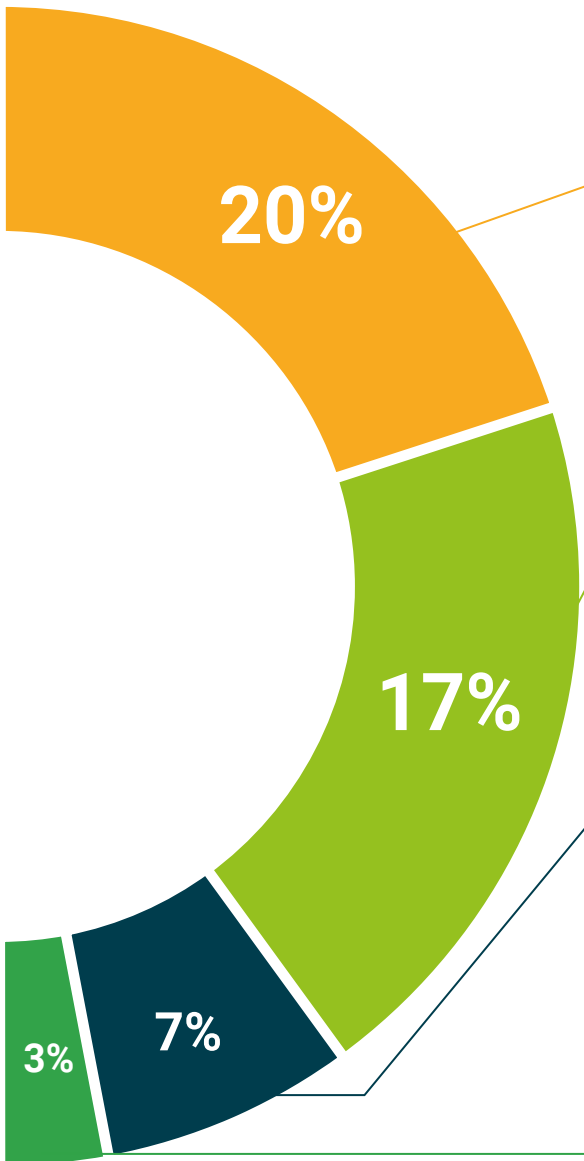
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



06

# Certificate

The Postgraduate Certificate in Cardiorespiratory Disorders in Small Animals guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*

This **Postgraduate Certificate in Cardiorespiratory Disorders in Small Animals** contains the most complete and up-to-date scientific program on the market.

After students have 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 through the Postgraduate Certificate and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Certificate in Cardiorespiratory Disorders in Small Animals**

Official N° of hours: **150 h.**



\*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  
development language  
classroom



**Postgraduate Certificate**  
Cardiorespiratory Disorders  
in Small Animals

- » Modality: online
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- » Certificate: TECH Technological University
- » Dedication: 16h/week
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