

# Postgraduate Certificate

## Acquired Heart Disease. Cardiomyopathies in Small Animals



## Postgraduate Certificate Acquired Heart Disease. Cardiomyopathies in Small Animals

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

Website: [www.techtute.com/us/veterinary-medicine/postgraduate-certificate/acquired-heart-disease-cardiomyopathies-small-animals](http://www.techtute.com/us/veterinary-medicine/postgraduate-certificate/acquired-heart-disease-cardiomyopathies-small-animals)

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# 01

# Introduction

Acquired cardiomyopathies encompass a heterogeneous group of diseases affecting various small animal species. Its prevalence is high.

For example, dilated cardiomyopathy ranks second on the list of the most common heart diseases in dogs, while hypertrophic cardiomyopathy is by far the most prevalent heart disease in cats.

The diagnosis of cardiomyopathies is based mainly on echocardiographic and electrocardiographic examination, which will be detailed in this program.



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*This training is the best option you can find to specialize in veterinary cardiology and make more accurate diagnoses”*

Cardiology of Small Animals is a subspecialty of Internal Medicine with a great development in the last decades. The teachers of this Postgraduate Certificate are at the forefront of the latest diagnostic techniques and treatment of cardiovascular diseases in small animals. Through their specialized education, they have developed a useful, practical program adapted to today's reality, a reality that is becoming more and more demanding.

This comprehensive program compiles the different cardiovascular diseases affecting small animals. It starts with a solid development of the basics of cardiovascular physiology, pathophysiology and pharmacology, so often forgotten and so important and useful in daily clinical practice, followed by the optimization of clinical examination and diagnostic tests, and ending with the latest therapeutic protocols and patient monitoring procedures.

This training specializes the general practitioner in an area that is increasingly in demand, partly because of its frequency, partly because of the need for specialization that this area demands.

In all the modules, a gradual exposition of knowledge at the physiological and pathophysiological level has been established, a development of the protocols for approaching patients with cardiovascular diseases with diagnostic and treatment algorithms, as well as the monitoring that should be done in these patients, since many of these diseases are chronic. It compiles the author's experience, without forgetting scientific rigor and the most important updates based on evidence. It develops the diseases, the action protocols and takes into account the integral approach to the patient, considering the disease, the patient and the owner in line with evidence-based medicine.

All topics incorporate numerous multimedia material: photos, videos and diagrams, so important in a specialty where imaging techniques are of great importance.

Finally, since this is an online Postgraduate Certificate, the students are not conditioned by fixed schedules, nor do they need to move to another physical location. All of the content can be accessed at any time of the day, so you can balance your working or personal life with your academic life.

This **Postgraduate Certificate in Acquired Heart Disease. Cardiomyopathies in Small Animals** contains the most complete and up to date educational program on the market. The most important features of the program include:

- ♦ The development of case studies presented by experts in Veterinary Cardiology.
- ♦ The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice.
- ♦ New developments in Acquired Heart Disease
- ♦ Practical exercises where the self assessment process can be carried out to improve learning
- ♦ Its special emphasis on innovative methodologies in Cardiomyopathies 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



*Do not miss the opportunity to take this Postgraduate Certificate with us. It's the perfect opportunity to advance your career and stand out in an industry with high demand for professionals"*

“

*This Postgraduate Certificate is the best investment you can make in selecting a refresher program to update your veterinary knowledge in cardiology”*

Its 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 an immersive education 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 during the academic program. For this purpose, the professional will be assisted by an innovative interactive video system developed by renowned experts with extensive experience in personal training.

*This specialization comes with the best didactic material, providing you with a contextual approach that will facilitate your learning.*

*This 100% online Postgraduate Certificate will allow you to combine your studies with your professional work while increasing your knowledge in this field.*



# 02 Objectives

This Postgraduate Certificate in Acquired Heart Disease. Cardiomyopathies in Small Animals is oriented to facilitate the performance of the veterinary professional with the latest advances and the most innovative treatments in the sector.





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*Learn about the latest advances in the field from the comfort of your home, thanks to the online mode on which this program is based"*



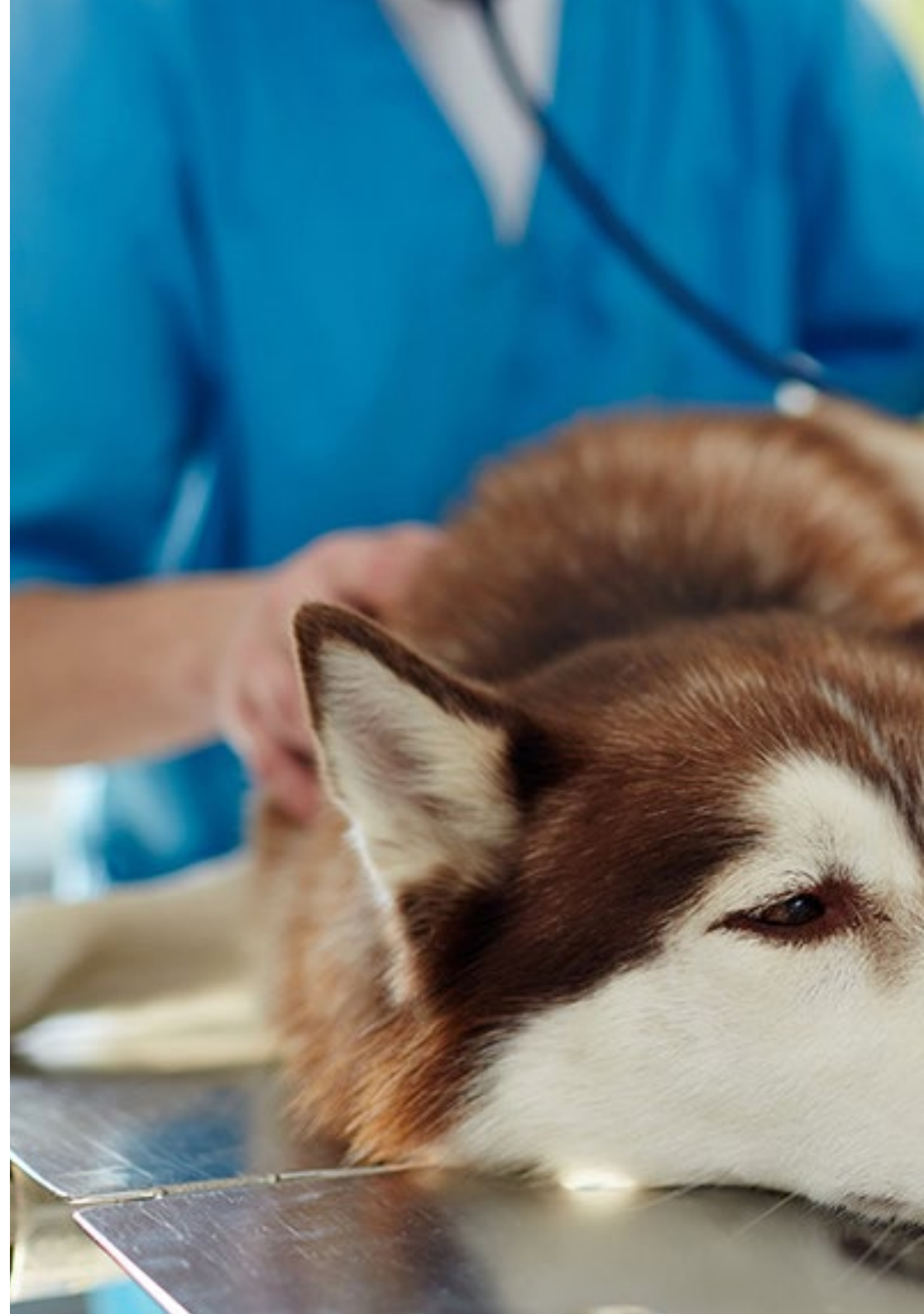
## General Objectives

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- Consolidate the phenotypic characteristics that define each of the cardiomyopathies affecting small animals
- Generate specialized knowledge in the diagnosis of the etiological causes that can lead to a cardiomyopathy phenotype
- Determine the possible hemodynamic consequences of cardiomyopathies
- Develop an individualized treatment plan to maximize the quality of life and life expectancy of affected patients



*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 diagnostic protocol for the phenotype of canine dilated cardiomyopathy and the features that may raise suspicion of secondary cardiomyopathy
- ◆ Systematically assess the possible presence of etiologic causes of canine dilated cardiomyopathy that can be treated
- ◆ Develop an assessment of the risk of negative events in cases of dilated and arrhythmogenic right cardiomyopathy
- ◆ Develop an individualized treatment protocol to maximize the patient's life expectancy, and sometimes reverse the phenotype
- ◆ Specify the echocardiographic criteria for the diagnosis of feline hypertrophic cardiomyopathy
- ◆ Generate advanced knowledge on the latest feline hypertrophic cardiomyopathy staging model for clinical decision making
- ◆ Analyze the differentiating characteristics of other types of feline cardiomyopathies

03

# Course Management

The program's teaching staff includes leading experts in veterinary cardiology who bring the experience of their work to this training. They are world renowned veterinarians from different countries with proven theoretical and practical professional experience.





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*Our teaching team, experts in cardiology in small animals, will help you achieve success in your profession”*

## Management



### Dr. Martínez Delgado, Rubén

- Since 2017, he has headed the Cardiology service at the Estoril Veterinary Hospital, Móstoles
- Collaborates with the Veterinary Hospital of the UCM developing the part of minimally invasive interventional cardiology
- From 2010 to the present, he has been working as an ambulatory Cardiologist in many centers in Madrid and surrounding areas
- Graduated in Veterinary Medicine in 2008 from the Complutense University of Madrid (UCM)
- Internships in Surgery (2006) and in Cardiology (2007-2008) at UCM
- 2008 collaboration project in minimally invasive interventional cardiology in the cardiology service of the UCM
- From 2009 to 2010 he completed the Intership of the official internship of the European College of Internal Medicine (ECVIM) at the Gran Sasso Veterinary Clinic in Milan (a reference center in cardiology and ultrasound diagnosis and a center specialized in interventional cardiology)
- He is a member of AVEPA and GECAR and a regular attendee of congresses in the specialty of Cardiology and Diagnostic Imaging. He has also presented several lectures on electrocardiography and echocardiography



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# Structure and Content

The structure of the contents has been designed by the best professionals in the field of Acquired Heart Disease. Cardiomyopathies in Small Animals, with extensive experience and recognized prestige in the profession, backed by the volume of cases reviewed, studied and diagnosed, and with extensive knowledge of new technologies applied to veterinary medicine.







*This Postgraduate Certificate contains the most complete and up to date scientific program on the market”*

## Module 1 Acquired Heart Diseases Cardiomyopathies

- 1.1. Primary Canine Dilated Cardiomyopathy
  - 1.1.1. Definition of Primary Dilated Cardiomyopathy (DCM) and Histological Features
  - 1.1.2. Echocardiographic Diagnosis of DCM
  - 1.1.3. Electrocardiographic Diagnosis of Occult DCM
    - 1.1.3.1. Electrocardiogram (ECG)
    - 1.1.3.2. Holter
  - 1.1.4. RCM Therapy
    - 1.1.4.1. Hidden Phase
    - 1.1.4.2. Symptomatic Phase
- 1.2. Secondary Canine Dilated Cardiomyopathy
  - 1.2.1. Aetiological Diagnosis of Dilated Cardiomyopathy (DCM)
  - 1.2.2. DCM Secondary to Nutritional Deficiencies
  - 1.2.3. DCM Secondary to Other Causes
    - 1.2.3.1. Endocrine Disorders
    - 1.2.3.2. Toxins
    - 1.2.3.3. Others
- 1.3. Tachycardia-Induced Cardiomyopathy (TICM)
  - 1.3.1. Electrocardiographic Diagnosis of TICM
    - 1.3.1.1. Electrocardiogram (ECG)
    - 1.3.1.2. Holter
  - 1.3.2. TICM Therapy
    - 1.3.2.1. Pharmacotherapy
    - 1.3.2.2. Radiofrequency Ablation
- 1.4. Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC)
  - 1.4.1. Definition of ARVC and Histological Features
  - 1.4.2. Echocardiographic Diagnosis of ARVC
  - 1.4.3. Electrocardiographic Diagnosis of ARVC
    - 1.4.3.1. ECG
    - 1.4.3.2. Holter
  - 1.4.4. ARVC Therapy



- 1.5. Feline Hypertrophic Cardiomyopathy (HCM) I
  - 1.5.1. Definition of HCM and Histological Features
  - 1.5.2. Echocardiographic Diagnosis of HCM Phenotype
  - 1.5.3. Electrocardiographic Findings at HCM
- 18.6. Feline Hypertrophic Cardiomyopathy (HCM) II
  - 1.6.1. Aetiological Diagnosis of HCM
  - 1.6.2. Hemodynamic Consequences of HCM
  - 1.6.3. Staging of HCM
  - 1.6.4. Prognostic Factors in HCM
  - 1.6.5. HCM Therapy
    - 1.6.5.1. Asymptomatic Phase
    - 1.6.5.2. Symptomatic Phase
- 1.7. Other Feline Cardiomyopathies I
  - 1.7.1. Restrictive Cardiomyopathy (RCM)
    - 1.7.1.1. Histological Characteristics of RCM
    - 1.7.1.2. Echocardiographic Diagnosis of RCM Phenotype
    - 1.7.1.3. Electrocardiographic Findings in RCM
    - 1.7.1.4. RCM Therapy
  - 1.7.2. Feline Dilated Cardiomyopathy
    - 1.7.2.1. Histological Features of Feline Dilated Cardiomyopathy (DCM)
    - 1.7.2.2. Echocardiographic Diagnosis of the DCM Phenotype
    - 1.7.2.3. Etiologic Diagnosis of Feline DCM
- 1.8. Other Feline Cardiomyopathies II
  - 1.8.1. Feline Dilated Cardiomyopathy (DMC) (cont.)
    - 1.8.1.1. Therapy of Feline DCM
  - 1.8.2. End-stage Cardiomyopathies
    - 1.8.2.1. Echocardiographic Diagnosis
    - 1.8.2.2. Therapy of End-stage Cardiomyopathy
  - 1.8.3. Hypertrophic Obstructive Cardiomyopathy (HOCM)
- 1.9. Myocarditis
  - 1.9.1. Clinical Diagnosis of Myocarditis
  - 1.9.2. Etiologic Diagnosis of Myocarditis
  - 1.9.3. Non-etiological Therapy of Myocarditis
  - 1.9.4. Chagas Disease
- 1.10. Other Myocardial Alterations
  - 1.10.1. *Atrial Standstill*
  - 1.10.2. Fibroelastosis
  - 1.10.3. Cardiomyopathy Associated with Muscular Dystrophy (Duchenne)
  - 1.10.4. Cardiomyopathy in Exotic Animals



*Achieve professional success with this high level training provided by prestigious professionals with extensive experience in the sector"*

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.





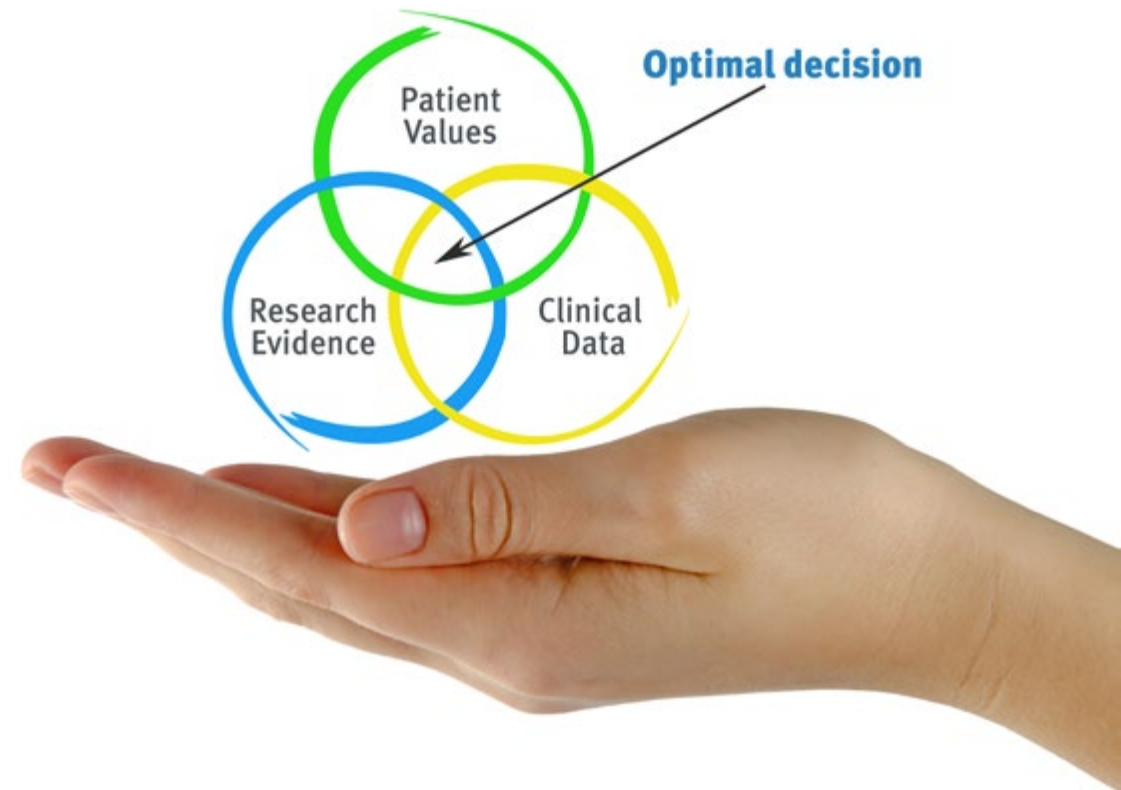
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## 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

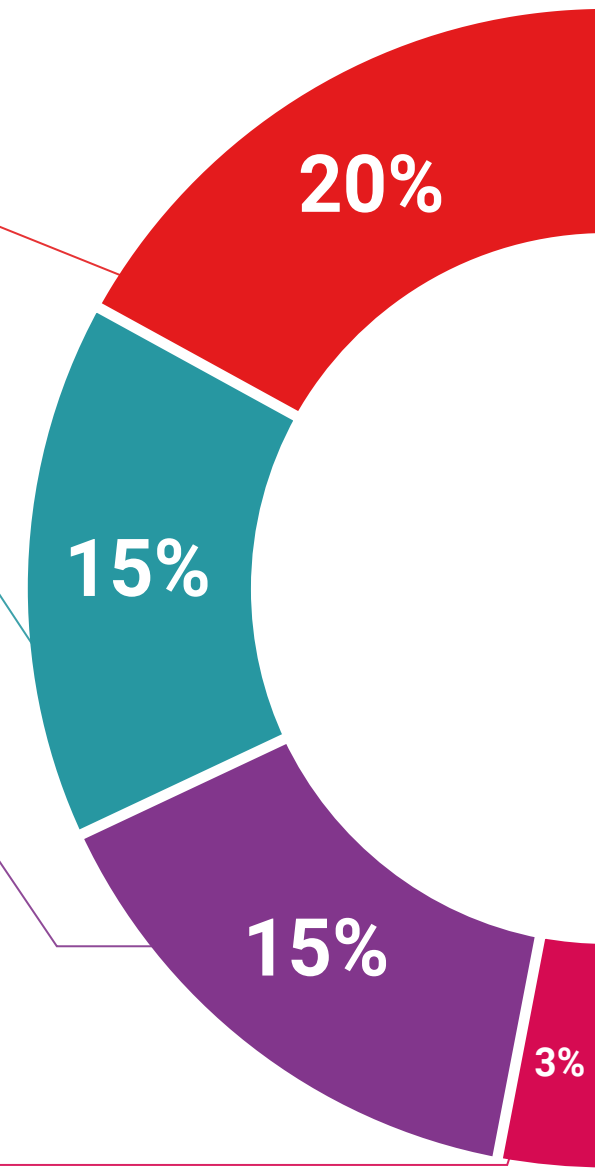
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

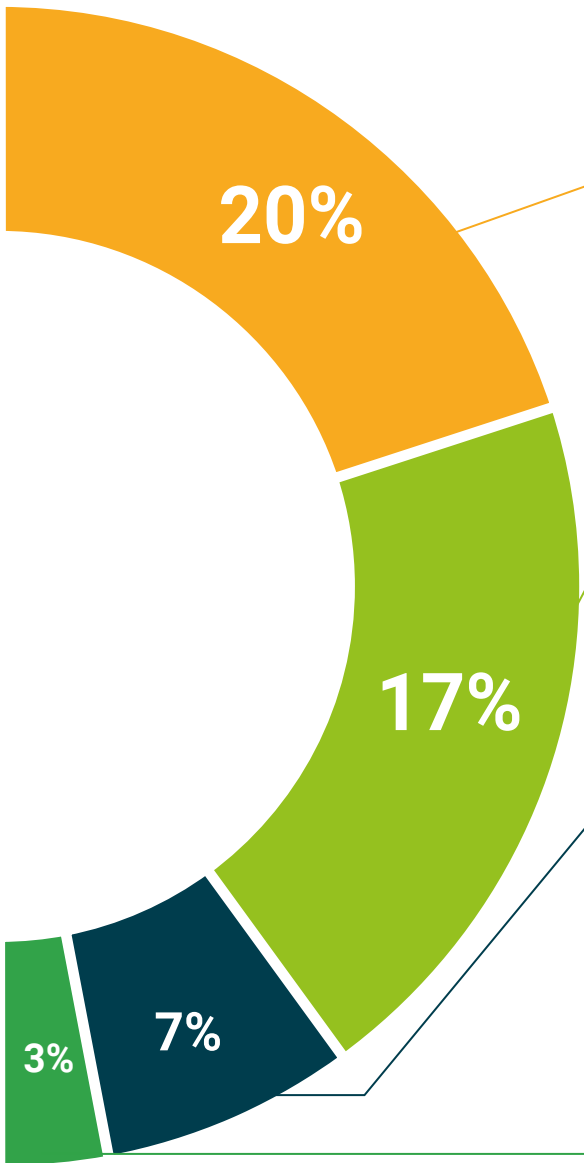
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



### 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

This Postgraduate Certificate in Acquired Heart Disease. Cardiomyopathies in Small Animals guarantees students, in addition to the most rigorous and up to date education, access to a Postgraduate Certificate issued by TECH Global University.





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

This program will allow you to obtain your **Postgraduate Certificate in Acquired Heart Disease. Cardiomyopathies 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: **Postgraduate Certificate in Acquired Heart Disease. Cardiomyopathies in Small Animals**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 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.

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



## Postgraduate Certificate

Acquired Heart Disease.

Cardiomyopathies in

Small Animals

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**Postgraduate Certificate**  
Acquired Heart Disease.  
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in Small Animals