

# Postgraduate Certificate Radiology of the Cardiovascular System in Small Animals



## Postgraduate Certificate Radiology of the Cardiovascular System in Small Animals

- » Modality: **online**
- » Duration: **6 weeks**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **online**
- » Target Group: **veterinarians who want to specialize in radiology**

Website: [www.techtute.com/us/veterinary-medicine/postgraduate-certificate/radiology-cardiovascular-system-small-animals](http://www.techtute.com/us/veterinary-medicine/postgraduate-certificate/radiology-cardiovascular-system-small-animals)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

---

*p. 28*

# 01

# Introduction

Being able to correctly interpret a cardiac radiology is a challenge in the clinical practice of veterinarians, since any small error can lead to a wrong diagnosis, prolonging the animal's disease without being able to apply the appropriate treatment in an early manner. As TECH knows that specialization in this field is essential, this academic program has been created, which has the most relevant information at this time, to catch up on the main developments in this area.





“

*The importance of Radiology of the Cardiovascular System in the veterinary field makes this Postgraduate Certificate one of the main ones in our academic offer"*

Cardiac radiology is very present in the daily clinical practice of veterinary practices. Therefore, the specialization of professionals in this field is essential, which has motivated us to create this specific Postgraduate Certificate, which addresses the identification of cardiac anatomy in radiological projections, an essential part of cardiac and vascular diagnosis.

This section covers physiological and radiographic anatomy of the heart and major vessels, along with an introduction to radiographic interpretation and cardiac measurements. It also discusses the principles and interpretation of the tests, and covers the radiographic assessment of the cardiac chambers, great vessels and pathological affectations of the same from a simple and practical point of view.

In short, it is a program based on scientific evidence and daily practice, with all the nuances that each professional can contribute, so that the student can keep it in mind and compare it with the bibliography and enriched by the critical evaluation that every professional must have in mind.

Throughout this course, the student will learn about all the current approaches to the different challenges posed by his or her profession. A high-level step that will become a process of improvement, not only on a professional level, but also on a personal level. In addition, at TECH we assume a social commitment: to help train highly qualified professionals and develop their personal, social and labor skills during their training. And, to do so, it will not only take you through the theoretical knowledge offered, but will show you another way of studying and learning, more organic, simpler and more efficient. We will work to keep you motivated and to develop your passion for learning, helping you to think and develop critical thinking skills. And we will push you to think and develop critical thinking.

This **Postgraduate Certificate in Radiology of the Cardiovascular System 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 Radiology
- ♦ 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
- ♦ Latest developments in Veterinary Radiology
- ♦ Practical exercises where self-assessment can be used to improve learning
- ♦ Special emphasis on innovative methodologies in Veterinary Radiology
- ♦ 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



*A unique training program in the market, with which you will be able to give a boost to your daily work"*

“

*Specialize in Radiology of the Cardiovascular System and offer a more personalized attention to the animals that come to your clinic"*

Its teaching staff includes professionals belonging to the veterinary field, who contribute their work experience to this training, as well as renowned 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 training 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 during the academic year. For this purpose, the professional will be assisted by an innovative system of interactive videos made by renowned and experienced experts in Veterinary Radiology.

*We provide you with the latest multimedia methodology so that you can study in a more practical way.*

*A 100% online program that will give you the opportunity to organize your study time yourself.*



# 02 Objectives

TECH's main objective in offering specific training in the veterinary field is that professionals are able to care for animals with full guarantees of success. For this reason, we offer a program with fully up-to-date information and in which you can find the latest practices.





“

*Reach your educational objectives at TECH, where you will find the specific training you are looking for”*



## General Objectives

---

- Identify and describe the radiological signs that are consistently observed
- Establish differential diagnoses based on what is observed
- Identify the most likely diagnosis and reason it out
- Examination of other imaging tests could be performed to refine the diagnosis
- Prepare a radiological report and make a diagnostic judgement





## Specific Objectives

---

- ◆ Identify enlargements of the different cardiac chambers
- ◆ Examine the anatomy of the large vessels
- ◆ Determine the limits of radiology to assess cardiac function
- ◆ Analyze normal morphological variations as a function of the cardiac cycle
- ◆ List the projections necessary to visualize the cardiac silhouette optimally
- ◆ Address the assessment of arteries and veins of the pulmonary lobes
- ◆ Identify radiographic signs of cardiac alterations



*A complete training that will boost your ability to work in Cardiovascular Radiology in Small Animals, providing you with greater competitiveness in the labor market"*



# 03

# Course Management

The teaching team, formed by professionals of reference in the veterinary field and with years of experience both in consultation and teaching, will provide detailed information in Veterinary Radiology in Small Animals. A unique opportunity that will help you grow professionally.





“

*Our teaching team will help you make an in-depth study of the Radiology of the Cardiovascular System”*

## Management



### Dr. Gómez Poveda, Bárbara

- ♦ Parque Grande Veterinary Clinic. General veterinary
- ♦ Veterinary emergencies Las Rozas, Madrid. Emergency and hospitalization service
- ♦ Barvet – Veterinary at home Mobile Veterinary Director. Madrid
- ♦ Parla Sur Veterinary Hospital. Emergency and hospitalization service
- ♦ Veterinary Degree. Complutense University of Madrid
- ♦ Postgraduate in Small Animal Surgery (GPCert SAS). Madrid Improve International
- ♦ Online postgraduate course in Small Animal Clinic. Autonomous University of Barcelona

**Dr. Lázaro González, María**

- ◆ Degree in Veterinary Medicine from the Alfonso X El Sabio University Madrid, 2018
- ◆ GPCert in feline medicine 2020
- ◆ Postgraduate in Diagnostic Imaging
- ◆ Postgraduate in Feline Medicine
- ◆ Internship in animal anatomy during the veterinary degree program.
- ◆ Responsible for the emergency, internal medicine, radiology and ultrasound services at Gattos Hospital Feline Clinical Center (2018-2020)

**Dr. Conde Torrente, María Isabel**

- ◆ Head of the Diagnostic Imaging and Cardiology Service at Alcor Veterinary Hospital. Currently
- ◆ Degree in Veterinary Medicine from the University of Santiago de Compostela in 2012 with a certified European degree
- ◆ Advanced Postgraduate Course in Diagnostic Imaging (Computerized Axial Tomography). TCESMD. 2019
- ◆ Postgraduate in Diagnostic Imaging (GPCert- DI) 2016
- ◆ Training courses on clinical and laboratory analysis to veterinarians at Alberto Alcocer Veterinary Hospital
- ◆ Medical Director and head of the Advanced Diagnostic Imaging Service at Grupo Peñagrande. 2017-2019
- ◆ Head of the Diagnostic Imaging Service at Centro Veterinario Mejorada. 2016-2017
- ◆ Responsible for diagnostic services at Hospital Veterinario Alberto Alcocer. 2013-2016



# 04

# Structure and Content

The contents of this Postgraduate Certificate in Radiology of the Cardiovascular System in Small Animals have been designed by a team of university experts, backed by their years of experience. In this way, they have been in charge of programming a totally up-to-date syllabus aimed at the professional of the 21st century, who demands high quality training and knowledge of the main innovations in the field.







“

*We have the most complete academic program on the current market”*

## Module 1. Radiodiagnosis of the Cardiovascular System

- 1.1. Positioning in Cardiovascular Radiological Diagnosis
  - 1.1.1. Right Lateral Projection
  - 1.1.2. Dorsoventral Projection
  - 1.1.3. Differences with Other Projections
- 1.2. Physiological Radiological Imaging of the Cardiovascular System
  - 1.2.1. Cardiac Silhouette
  - 1.2.2. Cardiac Cameras
  - 1.2.3. Large Vessels
- 1.3. Altered Radiological Image of the Cardiovascular System
  - 1.3.1. Alteration in Cardiac Size
  - 1.3.2. Vascular Alteration
  - 1.3.3. Radiographic Signs of Heart Failure
- 1.4. Acquired Heart Diseases I
  - 1.4.1. Mitral Degenerative Disease
  - 1.4.2. Canine Cardiomyopathy
  - 1.4.3. Pericardial Diseases
- 1.5. Acquired Heart Diseases II
  - 1.5.1. Feline Cardiomyopathies
  - 1.5.2. Dirofilariasis
  - 1.5.3. Systemic Diseases with Cardiac Implications
- 1.6. Oncology
  - 1.6.1. Neoplasia of the Right Atrium
  - 1.6.2. Cardiac-based Neoplasm
  - 1.6.3. Congenital Heart Diseases
- 1.7. Patent Ductus Arteriosus
  - 1.7.1. Introduction
  - 1.7.2. Existing Forms
  - 1.7.3. Radiological Characteristics
  - 1.7.4. CAP with D-I Shunt



- 1.8. Vascular Ring Anomalies
  - 1.8.1. Introduction
  - 1.8.2. Types
  - 1.8.3. Radiological Characteristics
- 1.9. Other Congenital Diseases
  - 1.9.1. Pulmonary Stenosis
  - 1.9.2. Atrioventricular Septal Defect
  - 1.9.3. Tetralogy of Fallot
  - 1.9.4. Aortic Stenosis
  - 1.9.5. Interatrial Septal Defect
  - 1.9.6. Mitral Dysplasia
  - 1.9.7. Tricuspid Dysplasia
  - 1.9.8. Microcardia
- 1.10. Radiological Diagnosis of Pericardial Diseases
  - 1.10.1. Radiological Diagnosis of Pericardial Diseases
    - 1.10.1.1. Pericardial Effusion
    - 1.10.1.2. Introduction
    - 1.10.1.3. Radiological Characteristics
  - 1.10.2. Peritoneopericardial Diaphragmatic Hernia
    - 1.10.2.1. Introduction
    - 1.10.2.2. Radiological Characteristics

“ *A unique training opportunity that you should not miss*”



# 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.





“

*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

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 an abundance of 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.

“

*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.



## Relearning Methodology

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

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 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 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.

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

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 training system for presenting multimedia content 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 & Retesting**

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 future difficult 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 achieve the necessary skills to take a big step in learning. An opportunity to progress, with the support and monitoring of a modern and specialized university, which will propel you to another professional level.





*Include in your CV the Postgraduate Certificate in Radiology of the Cardiovascular System in Small Animals, a highly qualified added value for any professional in this field"*

This **Postgraduate Certificate in Radiology of the Cardiovascular System in Small Animals** 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 diploma 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 professional career evaluation committees.

Title: **Postgraduate Certificate in Radiology of the Cardiovascular System in Small Animals**

Official N° of Hours: **150 h.**



\*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  
development language  
classroom

**tech** technological  
university

Postgraduate  
Certificate  
Radiology of the  
Cardiovascular System  
in Small Animals

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

# Postgraduate Certificate Radiology of the Cardiovascular System in Small Animals

