

# Postgraduate Certificate

## Minimally Invasive Surgery in Small Animals



## Postgraduate Certificate

### Minimally Invasive Surgery 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/minimally-invasive-surgery-small-animals](http://www.techtute.com/us/veterinary-medicine/postgraduate-certificate/minimally-invasive-surgery-small-animals)

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# 01

# Introduction

In recent years, there has been a boom in the resolution of pathologies requiring surgery through minimally invasive procedures such as laparoscopy, thoracoscopy and interventional radiology. In Veterinary Medicine, studies in this field are promising, specialization is increasingly in demand and access to new technologies is more feasible, so that minimally invasive procedures in small animal clinics are more frequent.





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*This program is the best option you can find to specialize in Minimally Invasive Surgery in Small Animals and make more accurate diagnoses”*

The Postgraduate Certificate in Minimally Invasive Surgery in Small Animals is an educational project committed to training high quality professionals. It is a program designed by professionals specialized in each specific field who are faced with new surgical challenges every day.

This program begins with a brief history of the development of minimally invasive surgery from its beginnings, the advantages and disadvantages it presents, and a description of the equipment and instruments necessary to perform laparoscopy.

Describes the different techniques for performing pneumoperitoneum and the different management that can be performed to access the abdominal cavity, as well as the positioning of the equipment for better ergonomics. The dissection and suturing techniques and the way to practice them are also analyzed.

This Postgraduate Certificate examines the main laparoscopic techniques: ovariectomy/ovariohysterectomy, abdominal cryptorchidectomy, preventive gastropexy and liver biopsy. Other less frequent procedures such as splenectomy, cholecystectomy, digestive exploration, assisted cystoscopy and biopsy are also detailed.

The main characteristics of thoracoscopy and special equipment and pericardiectomy, as one of the most common techniques, are also explained. The student will learn how to perform a pulmonary biopsy, pulmonary lobectomy, chylothorax resolution technique and vascular rings.

Finally, other minimally invasive procedures such as interventional radiology are presented, as well as the main techniques being performed with this type of procedure.

After completing this Postgraduate Certificate, the student will have sufficient knowledge to perform any minimally invasive surgery. You will know, from the first moment, everything that a surgery entails, from the specific material and instruments for each region or surgery, anesthetics and medications used, to the most specific details that make a surgery a success.

This **Postgraduate Certificate in Minimally Invasive Surgery in Small Animals** contains the most complete and up to date educational program on the market.

The most important features include:

- ♦ The development of case studies presented by experts in Minimally Invasive Surgery in Small Animals
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ New developments in Minimally Invasive Surgery in Small Animals
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning
- ♦ Special focus on innovative methodologies in Minimally Invasive Surgery in Small Animals
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection work
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*If you want to advance your career, this is the perfect opportunity. Study with us this Postgraduate Certificate in Minimally Invasive Surgery in Small Animals and increase your skills"*

“

*This Postgraduate Certificate is the best investment you can make in selecting a refresher program to update your knowledge in Minimally Invasive Surgery in Small Animals"*

It includes in its teaching staff, professionals belonging to the field of Veterinary Surgery, who pour into this education the experience of their work, in addition to recognized specialists of leading 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 throughout the program. To do so, the professional will be assisted by an innovative system of interactive videos made by renowned and experienced experts in Minimally Invasive Surgery in Small Animals.

*We have the best didactic material, which will allow you a contextual study that will facilitate your learning.*

*This is the best education to combine with your working life. Study where and when you want with this 100% online Postgraduate Certificate.*



# 02 Objectives

The Postgraduate Certificate in Minimally Invasive Surgery in Small Animals is oriented to facilitate the performance of the professional dedicated to Veterinary Medicine with the latest advances and newest treatments in the sector.







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*Get trained in TECH and learn about the main treatments to save pets' lives"*



## General Objectives

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- Examine the main minimally invasive techniques such as laparoscopy and thoracoscopy
- Define the advantages and disadvantages of minimally invasive techniques
- Analyze interventional radiology, as well as the main techniques that are being performed with this type of approach
- Define the main equipment and instruments necessary to perform laparoscopies and thoracoscopy
- Implement knowledge to be able to decide which is the best treatment in each case



*Take the opportunity and take the step to get up to date on the latest developments in Minimally Invasive Surgery in Small Animals"*





## Specific Objectives

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- ◆ Identify the main equipment and instruments necessary to perform laparoscopies and thorascopies
- ◆ Develop the main techniques performed in small animal laparoscopic surgery such as ovarioectomy cryptorchidectomy, preventive gastropexy and liver biopsy
- ◆ Define other, less-common techniques of laparoscopic approach such as assisted cystoscopy, digestive examination, cholecystectomy and biopsy of different organs of the abdominal cavity
- ◆ Develop knowledge of the main techniques used in thorascopic surgery in small animals such as pericardiectomy and establish the most appropriate protocol to follow in each case
- ◆ Identify other, less common techniques of the thorascopic approach in small animals such as pulmonary biopsies, pulmonary lobectomy, chylothorax resolution technique and vascular rings
- ◆ Identify the main equipment and instruments needed to perform interventional radiology
- ◆ Define the main techniques with which interventional radiology is performed

03

# Course Management

The program's teaching staff includes leading experts in Veterinary Surgery in Small Animals, who contribute their vast work experience to this training program. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner.





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*Our teaching team, experts in Minimally Invasive Surgery in Small Animals, will help you achieve success in your profession"*

## International Guest Director

Dr. Wendy Baltzer is a leading figure in the international veterinary community. Her passion and extensive experience in Veterinary Medicine have led her to become involved in the field of research in **Small Animal Veterinary Surgery**. In this way, she has multiple publications in academic and scientific media, most of them very well positioned, reflecting an **index H 20** in **Google Scholar**.

Likewise, in her studies reflected in publications she defends the use of ultrasound and radiographs to predict the time of delivery in small animals, thereby reducing the likelihood of neonatal morbidity and mortality. In addition, she associates a decrease in pup vitality with the use of thiobarbiturates, ketamine and inhalation anesthetics.

Similarly, her work also focuses on the effects of oxidative stress on agility exercise in dogs, ligament and tendon injuries, improved impulse fracture repair, as well as injuries in working, sport, police and military dogs. She has also devoted much of her studies to **osteoarthritis**, **low back pain**, taping techniques and omentum grafting for bone healing.

She has taught at major academic institutions such as the **School of Veterinary Science at Massey University**, as well as **Oregon State University**. In the latter, she held a position of high responsibility, occupying the position of director of its Rehabilitation Center. Likewise, her work at **Sydney University** focuses on teaching the clinical practice of **Small Animal Surgery**, while continuing to develop her research in the fields of **Surgery**, **Sports Medicine** and **Rehabilitation**.



## Dr. Baltzer, Wendy

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- Head of Veterinary Surgery at the University of Sydney
- Director of the Rehabilitation Center at the University of Oregon
- Associate Professor in the School of Veterinary Science at the University of Sydney
- Ph.D. in Veterinary Physiology, Texas A&M University
- Specialist in Small Animal Surgery at Texas A&M University

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*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Management



### Dr. Ortiz Díez, Gustavo

- ♦ Associate Professor, Department of Animal Medicine and Surgery, Faculty of Veterinary Medicine, Complutense University of Madrid
- ♦ Head of Small Animal Unit at Complutense Clinical Veterinary Hospital.
- ♦ Head of the Department of Soft Tissue Surgery and Minimally Invasive Procedures at the Veterinary Specialties Hospital 4 Octubre (Arteixo, La Coruña, Spain)
- ♦ PhD and Undergraduate Degree in Veterinary Medicine from the UCM
- ♦ AVEPA Accredited Soft Tissue Surgery
- ♦ Member of the scientific committee and current president of GECIRA (AVEPA's Soft Tissue Surgery Specialty Group)
- ♦ Master's Degree in Research Methodology in Health Sciences from the UAB
- ♦ ICT competencies course for teachers by UNED
- ♦ Specialist in Traumatology and Orthopedic Surgery in Companion Animals by the UCM. Degree in Small Animal Cardiology from the UCM
- ♦ Courses of laparoscopic and thoracoscopic surgery at the Minimally Invasive Center Jesús Usón. Accredited in functions B, C, D and E of Experimentation Animals by the Community of Madrid
- ♦ Degree in Emotional Intelligence by UR. Completed training in Gestalt psychology





## Professors

### **Dr Carrillo Sánchez, Juana Dolores**

- ◆ PhD from the University of Murcia (2015)
- ◆ Degree in Veterinary Medicine from the University of Murcia (2002)
- ◆ Specialist in Endoscopy and Minimally Invasive Surgery in small animals. University of Extremadura (2019)
- ◆ Head of Surgery and Traumatology Service at the Clinical Veterinary Hospital of the University of Murcia (Since 2014)

04

# Structure and Content

The structure of the content has been designed by leading professionals in the Veterinary Surgery sector, 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 Science.



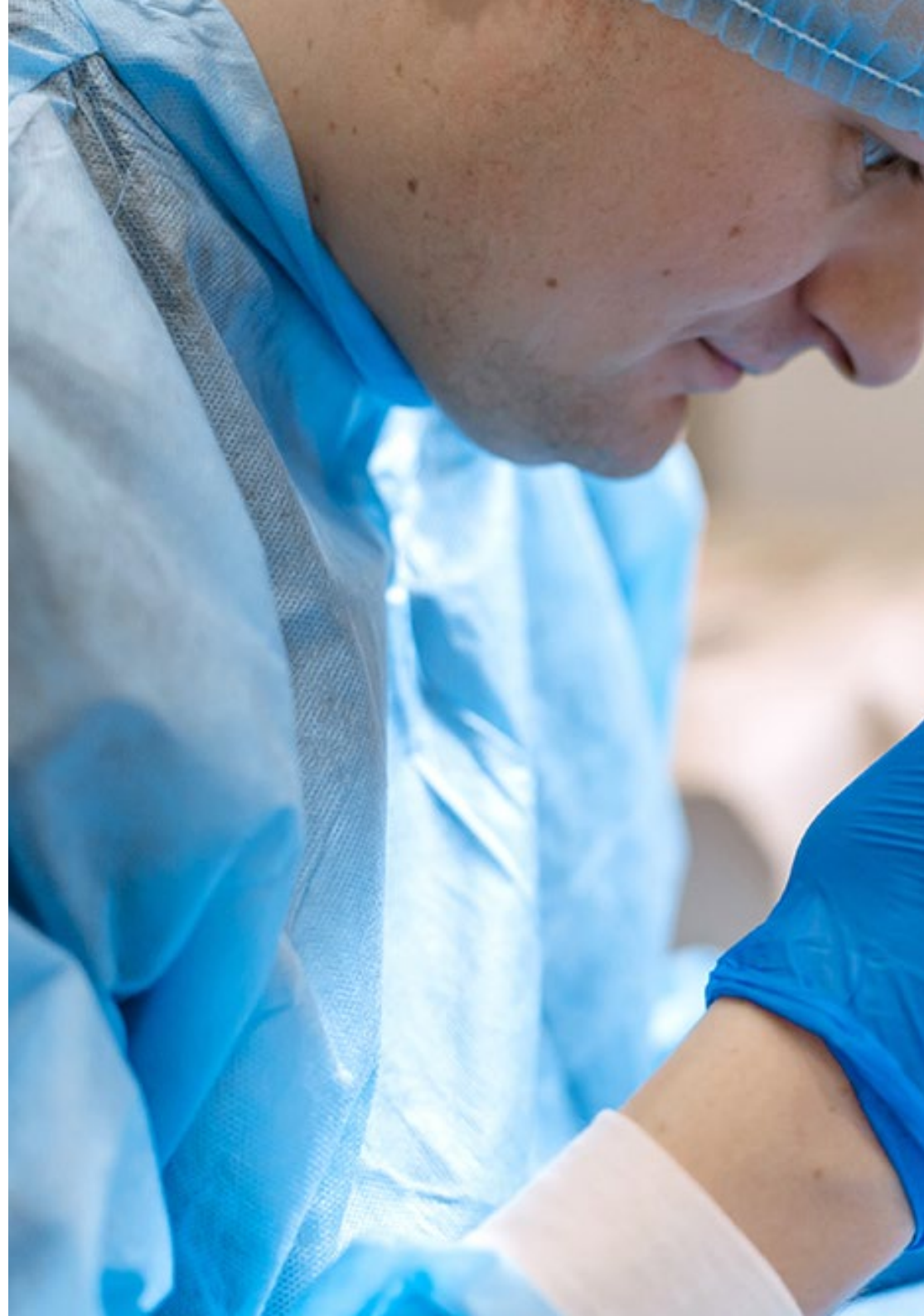


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*We have the most complete and up-to-date academic program in the market. We strive for excellence and for you to achieve it too”*

**Module 1. Minimally Invasive Surgery. Laparoscopy. Thoracoscopy  
Interventional Radiology**

- 1.1. History and Advantages/ Disadvantages of Minimally Invasive Surgery
  - 1.1.1. History of Laparoscopy and Thoracoscopy.
  - 1.1.2. Advantages and Disadvantages.
  - 1.1.3. New Perspectives.
- 1.2. Equipment and Instruments
  - 1.2.1. Equipment
  - 1.2.2. Instruments
- 1.3. Laparoscopy Techniques. Training Program
  - 1.3.1. Laparoscopy Sutures
    - 1.3.1.1. Conventional Sutures
    - 1.3.1.2. Mechanical Sutures
  - 1.3.2. Laparoscopy Training Program.
- 1.4. Laparoscopy (I). Approaches
  - 1.4.1. Techniques for Performing Pneumoperitoneum Surgery
  - 1.4.2. Port Placement
  - 1.4.3. Ergonomics
- 1.5. Laparoscopy (II). Most Common Techniques
  - 1.5.1. Ovariectomy.
  - 1.5.2. Abdominal Cryptorchidism
  - 1.5.3. Preventive Gastropexy
  - 1.5.4. Hepatic biopsy
- 1.6. Laparoscopy (III). Less Common Techniques
  - 1.6.1. Cholecystectomy.
  - 1.6.2. Assisted Cystoscopy
  - 1.6.3. Digestive Examination
  - 1.6.4. Splenectomy
  - 1.6.5. Biopsy
    - 1.6.5.1. Renal
    - 1.6.5.2. Pancreatic
    - 1.6.5.3. Lymph Nodes



- 1.7. Thoracoscopy (I). Approaches. Specific Materials
  - 1.7.1. Specific Materials
  - 1.7.2. Most Common Approaches. Port Placement
- 1.8. Thoracoscopy (II). Most Common Techniques. Pericardiectomy.
  - 1.8.1. Indications and Techniques for Pericardiectomy
  - 1.8.2. Pericardial Examination. Subtotal Pericardiectomy Versus Pericardial Window
- 1.9. Thoracoscopy (II). Less Common Techniques
  - 1.9.1. Pulmonary Biopsy
  - 1.9.2. Pulmonary Lobectomy
  - 1.9.3. Chylothorax.
  - 1.9.4. Vascular Rings.
- 1.10. Interventional Radiology.
  - 1.10.1. Equipment
  - 1.10.2. More Common Techniques

“ *This program will allow you to advance in your career comfortably*”



# 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. Gervas, 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

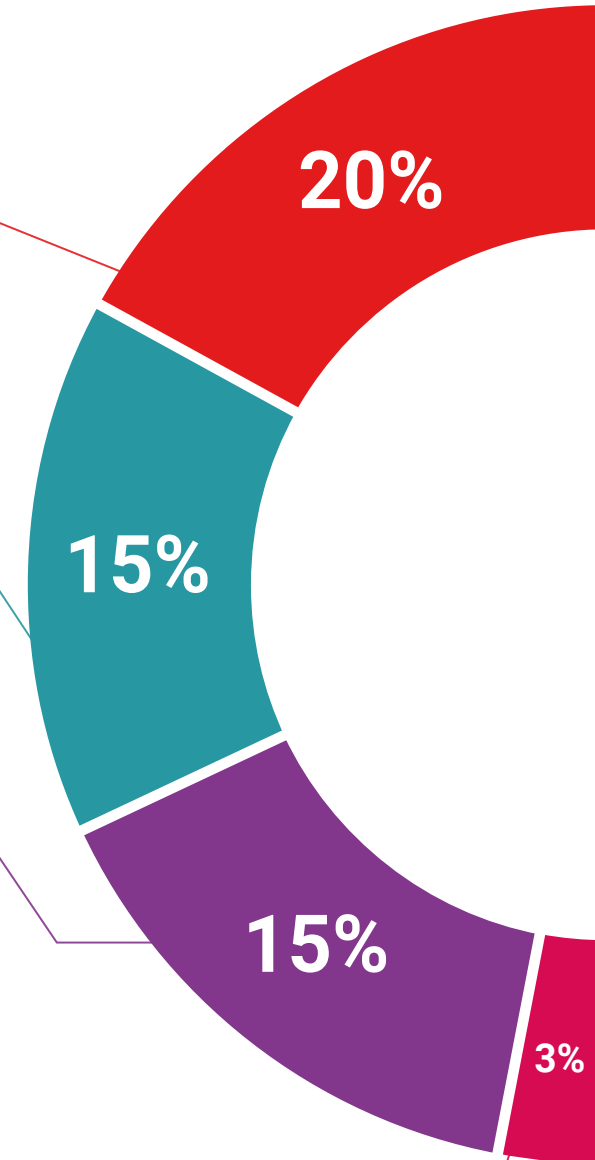
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

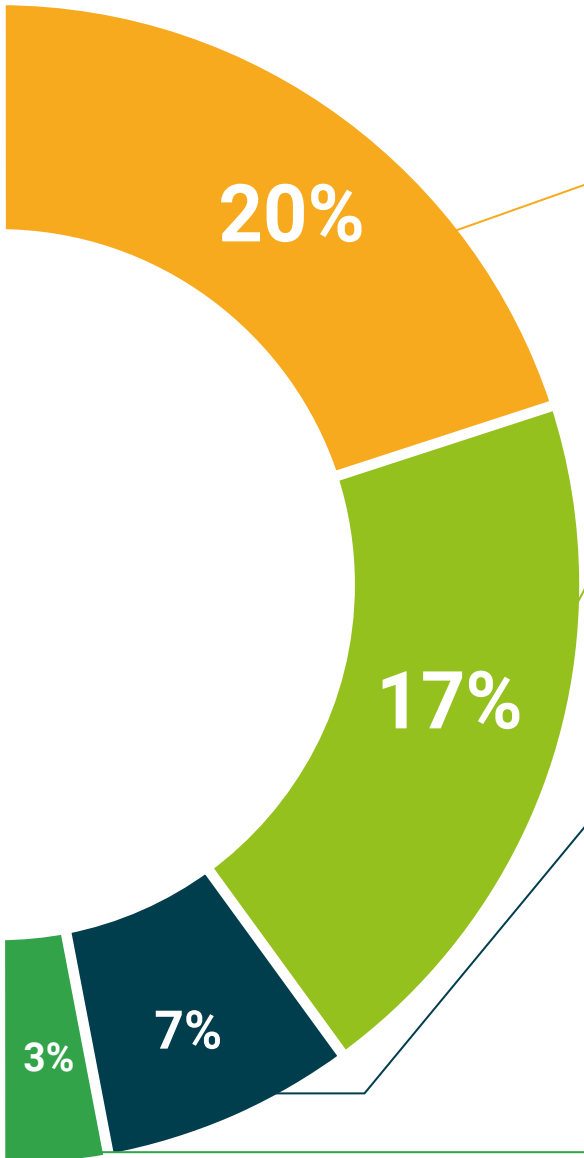
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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 Minimally Invasive Surgery 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 Minimally Invasive Surgery 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 Minimally Invasive Surgery 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 languages  
virtual classroom



## Postgraduate Certificate

Minimally Invasive

Surgery in

Small Animals

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

# Postgraduate Certificate

## Minimally Invasive Surgery in Small Animals