

# Postgraduate Certificate Introduction to Anesthesia in Veterinary Medicine





## Postgraduate Certificate Introduction to Anesthesia in Veterinary Medicine

Course Modality: **Online**

Duration: **3 months.**

Certificate: **TECH Technological University**

**12 ECTS Credits**

Teaching Hours: **300 hours.**

Website: [www.techtitute.com/us/veterinary-medicine/postgraduate-certificate/introduction-anesthesia-veterinary-medicine](http://www.techtitute.com/us/veterinary-medicine/postgraduate-certificate/introduction-anesthesia-veterinary-medicine)

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# 01

# Introduction

The application of anesthetic techniques in veterinary medicine requires the professional to have a broad knowledge of the different situations that may be encountered in clinical practice. Each case is different and requires a detailed study of all its characteristics.

This individual approach becomes essential and complex in cases in which the patient is within the risk groups, either because of age, pathologies or pre-existing characteristics.

This program offers you all the knowledge you may need in this field of veterinary medicine in one place, with high-quality teaching and a highly efficient and innovative learning system.



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*Become one of the most demanded professionals around: train in Introduction to Veterinary Anesthesia with this complete online Postgraduate Certificate”.*

The administration of anesthesia is a procedure that requires a precise and specific study of each situation and patient to try to maximize the chances of success. With a broad methodological development, throughout this training, you will be able to learn each and every one of the fundamental points in this area of work.

In this sense, the Postgraduate Certificate will begin with the phases prior to the administration of anesthesia: knowledge of the equipment, prior patient management, medication and study of drug-drug interactions.

The study of the physiology most closely related to anesthesia, focusing on the involvement of the cardio-circulatory, respiratory, nervous system and endocrine systems will be the main focus of the second part of the course: An essential overview to understand how anesthesia works and its effects on the patient.



*Acquire comprehensive and advanced training in Introduction to Veterinary Anesthesia with this highly effective Postgraduate Certificate and open new paths to professional development"*

This **Postgraduate Certificate in Introduction to Anesthesia in Veterinary Medicine** offers you the advantages of a high-level scientific, teaching, and technological course.

These are some of its most notable features:

- ◆ The latest technology in online teaching software
- ◆ A highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- ◆ Practical cases presented by practising experts
- ◆ State-of-the-art interactive video systems.
- ◆ Teaching supported by telepractice
- ◆ Continuous updating and recycling systems
- ◆ Autonomous learning: full compatibility with other occupations
- ◆ Practical exercises for self-evaluation and learning verification
- ◆ Support groups and educational synergies: questions to the expert, debate and knowledge forums.
- ◆ Communication with the teacher and individual reflection work
- ◆ Content that is accessible from any fixed or portable device with an Internet connection
- ◆ Supplementary documentation databases are permanently available, even after the course

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*With the experience of expert professionals who will contribute their expertise in this field to the Postgraduate Certificate, making this training program a unique opportunity for professional growth”*

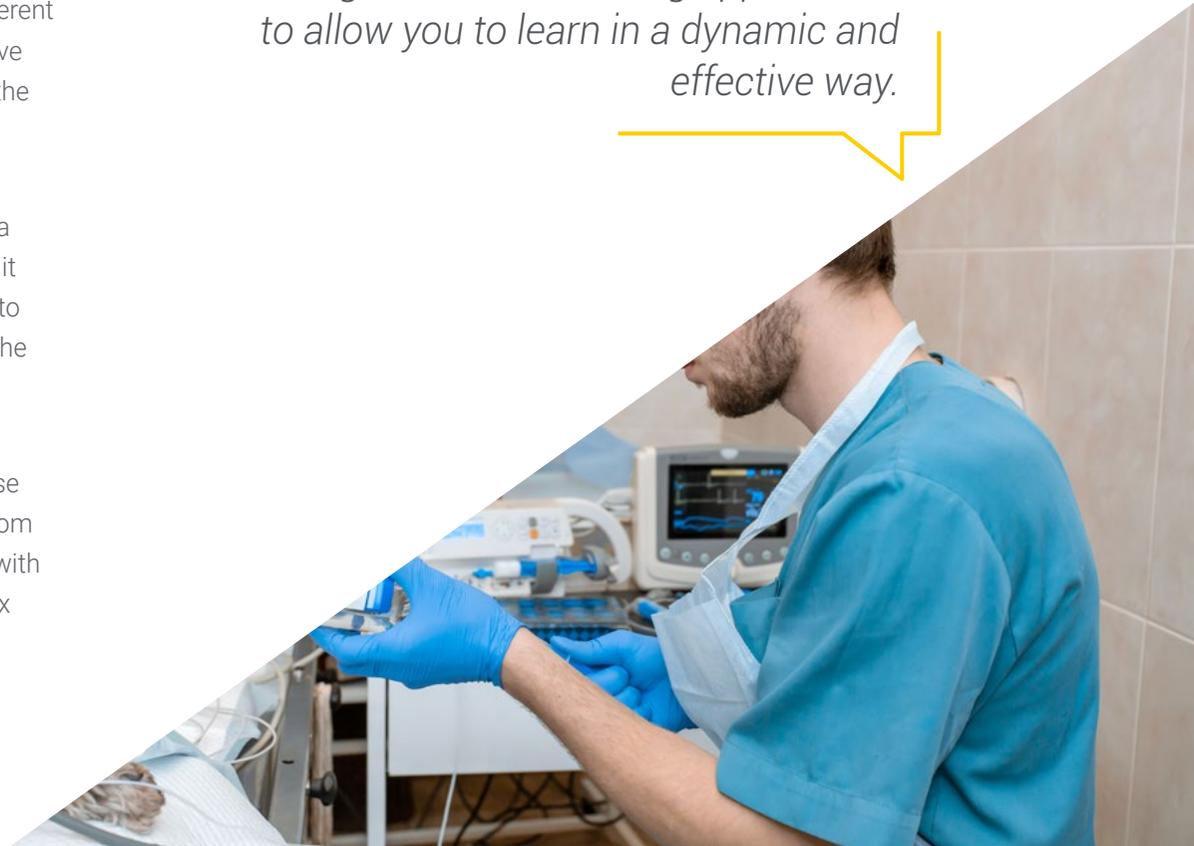
Our teaching staff is made up of professionals from different fields related to this specialty. In this way, we ensure that we provide you with the training update we are aiming for. A multidisciplinary team of professionals trained and experienced in different environments, who will cover the theoretical knowledge in an efficient way, but, above all, will put university the practical knowledge derived from their own experience at the service of the course: one of the differential qualities of this course.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Postgraduate Certificate in Introduction to Anesthesia in Veterinary Medicine. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. This way, you will be able to study with a range of comfortable and versatile multimedia tools that will give you the operability you need in your training.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice: with the help of an innovative interactive video system, and learning from an expert, you will be able to acquire the knowledge as if you were actually dealing with the scenario you are learning about. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

*A Postgraduate Certificate that will enable you to work in all fields of Anesthesia in Veterinary Medicine, with the competence of a high-level professional”*

*With a methodological design based on proven teaching techniques, this Postgraduate Certificate will take you through different teaching approaches to allow you to learn in a dynamic and effective way.*



02

# Objectives

Our objective is to train highly qualified professionals for the working An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is focused on helping medical professionals reach a much higher level of expertise and control. A goal that, in just six months, you will be able to achieve with a highly intensive and precise course.





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*If your objective is to broaden your skill set to include new routes to success and development, this is the course for you: training that aspires to excellence”*



## General Objectives

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- Know and understand the main mechanical parts of the anesthesia machine and the importance of the previous management of the patient in terms of medication and feeding.
- Know the characteristics of each anesthetic time and the control points to take into account in order to increase patient safety
- Know the specific needs in terms of fluid therapy and transfusion medicine related to the perioperative period.



## Specific Objectives

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### Module 1.

- Know the origins of the specialty in human medicine and its incorporation into the veterinary field.
- Know the guidelines and importance of perioperative management of feeding of the surgical patient and fasting of solids and liquids
- Know and understand the operation of anesthetic machines and mechanical ventilators

### Module 2.

- Practical knowledge of the different phases of anesthesia from preoperative assessment to patient awakening and the main postoperative care.
- Know the characteristics of premedication, induction, maintenance and education to minimize anesthetic risks as much as possible.
- Understand in a practical way the differences during the maintenance phase in the case of inhalation and intravenous anesthesia
- Know the characteristics and indications of perioperative fluid therapy and the administration of blood products



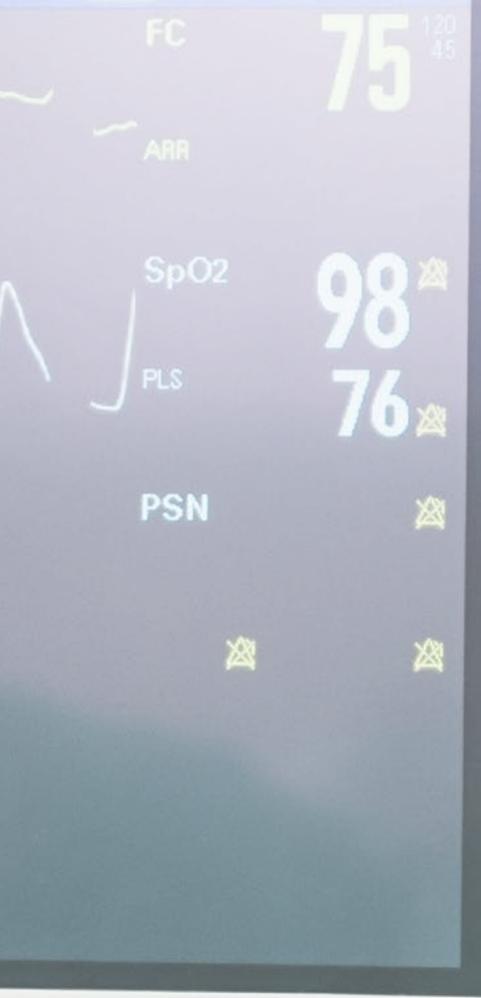
“ A path to achieve training and professional growth that will propel you towards a greater level of competitiveness in the employment market”.

04

# Course Management

For our course to be of the highest quality, we are proud to work with a teaching staff of the highest level, chosen for their proven track record. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.





Silenciar alarma

Limites de alarmas

Alarmas apagadas

Evento

Dar de alta

Pantalla principal

Imprimir imagen

PSN Encender/ Apagar

Acceso rápido

Marcar

Menú

“

*Leading professionals in the field have come together to teach you the latest advances in Introduction to Anesthesia in Veterinary Medicine”*

## Management



### Dr. Jiménez Cidre, Miguel Ángel

- Graduated in veterinary medicine from the Complutense University of Madrid. Two-year internship at the Anesthesia Service of the Veterinary Clinic Hospital of the UCM.
- Accredited by AVEPA in the Specialty of Anesthesia and Analgesia
- Head of the Anesthesia-Reanimation Service and Pain Unit at Hospital Veterinario Puchol
- Founding member of the Spanish Society of Veterinary Anesthesia and Analgesia (SEAAV). Member of the European Association of Veterinary Anesthesia (AVA), International Association for the Study of Pain (IASP) and the International Veterinary Academy of Pain Management (IVAPM).
- Speaker in several Anesthesia and Analgesia courses and national and international congresses
- Author of the books "Practical Pain Management in Small Animals" and "Role of NSAIDs in Chronic Pain"
- Co-author of the "Clinical Manual of Pharmacology and "Complications in Small Animal Anesthesia"; as well as author of specific chapters in other books

## Professors

### Mr. Cabezas Salamanca, Miguel Angel (Course Director)

- ♦ Graduated in veterinary medicine from the Complutense University of Madrid. Two-year internship at the Anesthesia Service of the Veterinary Clinic Hospital of the UCM.
- ♦ Accredited by AVEPA in the Specialty of Anesthesia and Analgesia
- ♦ Head of the Anesthesia-Reanimation Service and Pain Unit at Hospital Veterinario Puchol
- ♦ Founding member of the Spanish Society of Veterinary Anesthesia and Analgesia (SEAAV). Member of the European Association of Veterinary Anesthesia (AVA), International Association for the Study of Pain (IASP) and the International Veterinary Academy of Pain Management (IVAPM).
- ♦ Speaker in several Anesthesia and Analgesia courses and national and international congresses
- ♦ Author of the books "Practical Pain Management in Small Animals" and "Role of NSAIDs in Chronic Pain"
- ♦ Co-author of the "Clinical Manual of Pharmacology and "Complications in Small Animal Anesthesia"; as well as author of specific chapters in other books

### Ms. Soto Martín, María (Course Co-author)

- ♦ Degree in veterinary medicine from the Complutense University of Madrid in 2009, with preferential dedication to anesthesia since 2010 and sole dedication since 2012
- ♦ Member of the Spanish Society of Veterinary Anesthesia and Analgesia, with frequent participation in its annual congresses, one of which earned her the award for best oral communication
- ♦ Member of the Anesthesia group of AVEPA, having also participated on several occasions with scientific content in its annual congress
- ♦ She provided specific small animal anesthesia training throughout his career in the form of lectures, webinars, hands-on workshops and clinic-based training
- ♦ She also collaborated in books and scientific articles, published nationally and internationally

05

# Structure and Content

The contents of this Postgraduate Certificate have been developed by different experts, with a clear purpose: to ensure that our students acquire each and every one of the necessary skills to become true experts in this field.





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*This Postgraduate Certificate in Introduction to Anesthesia in Veterinary Medicine contains the most complete and up-to-date scientific program on the market”*

## Module 1. Introduction. Anesthetic Equipment

- 1.1. Brief History of Anesthesia
  - 1.1.1. Important Facts About Human Anesthesiology
  - 1.1.2. Relevant Historic Facts in Veterinary Anesthesiology
- 1.2. Optimization of the Surgical Patient. Pre-operative Fasting
  - 1.2.1. Importance of Liquid Fasting
  - 1.2.2. Solid Fasting, Why and How Much?
- 1.3. Peri-operative Drugs
  - 1.3.1. Precautions in the Polymedicated Patient. General aspects
  - 1.3.2. Medication Guidelines for Patients with Cardiac Medication
  - 1.3.3. Medication Guidelines in Diabetic Patients
  - 1.3.4. Medication Guidelines for Patient with Epilepsy
  - 1.3.5. Other Chronic Medications
- 1.4. Anesthetic Machines and Systems
  - 1.4.1. General aspects
  - 1.4.2. Technical Description and Equipment Care
  - 1.4.3. Anesthetic Circuits
    - 1.4.2.1. No Reinhalation
    - 1.4.2.2. With Reinhalation
- 1.5. Mechanical Ventilators
  - 1.5.1. Introduction
  - 1.5.2. Types of Ventilators
- 1.6. Systems of Adminstrating Drugs
  - 1.6.1. Systems of Administrating Inhalants
  - 1.6.2. Basic Systems
  - 1.6.3. Volumetric Infusion Pumps
  - 1.6.4. Perfusers
- 1.7. Patient Classification Systems
  - 1.7.1. Introduction
  - 1.7.2. Conduction Heating Systems
  - 1.7.3. Heating Systems with Hot Air

- 1.8. Miscellaneous (Endotracheal Tubes and Other Intubation Systems, Laryngoscope)
  - 1.8.1. Endotracheal Tubes
  - 1.8.2. Supraglottic Devices
  - 1.8.3. Laryngoscopy
- 1.9. Clinical Safety
- 1.10. Contributions of Current Anesthesiology to Veterinary Medicine and Client Expectations

## Module 2. Anesthetic Times

- 2.1. Pre-anesthetic Assessment/Anesthetic Risk
  - 2.1.1. Anesthetic Risk versus Procedure Risk
  - 2.1.2. ASA Classification
- 2.2. Pre-medication Premedication Drugs
  - 2.2.1. Sedatives
  - 2.2.2. Opioids
  - 2.2.3. Alpha-2 Agonists
  - 2.2.4. Benzodiazepines
  - 2.2.5. NSAIDS
  - 2.2.6. Others.
- 2.3. Induction Intubation
  - 2.3.1. Induction Drugs
    - 2.3.1.1. Propofol
    - 2.3.1.2. Alfaxalone
    - 2.3.1.3. Thiopental
    - 2.3.1.4. Etomidate
    - 2.3.1.5. Adjuvants
  - 2.3.2. Intubation Maneuver
    - 2.3.2.1. Sellick Maneuver
- 2.4. Maintenance. Inhalation Anesthesia
  - 2.4.1. Characteristics of Inhalation Maintenance
  - 2.4.2. Main Anesthetic Agents (Halothane, Isoflurane, Sevoflurane, Desflurane)
- 2.5. Maintenance. Total Intravenous Anesthesia (TIVA)

- 2.5.1. Maintenance Characteristics in Total Intravenous Anesthesia
- 2.5.2. Drugs Used in TIVA (Propofol, Alfaxalone)
- 2.5.3. Partial Intravenous Anesthesia (PIVA)
  - 2.5.3.1. Features
  - 2.5.3.2. Drugs:
- 2.6. Mechanical Ventilation
  - 2.6.1. Principles of Mechanical Ventilation
  - 2.6.2. Controlled Ventilatory Modes
    - 2.6.1.1. Volume Mode
    - 2.6.1.2. Pressure Mode
  - 2.6.3. Assisted Ventilatory Modes
    - 2.6.3.1. Pressure Support
    - 2.6.3.2. Intermittent Synchronized Ventilation
  - 2.6.4. Positive End-Expiratory Pressure (PEEP)
  - 2.6.5. Alveolar Recruitment Maneuvers
- 2.7. Education. Immediate Postoperative
  - 2.7.1. Precautions Before Education
  - 2.7.2. Precautions In the Immediate Postoperative Period
- 2.8. Intraoperative Fluid Therapy
  - 2.8.1. Principles of Fluid Therapy
  - 2.8.2. Types of Fluid
  - 2.8.3. Fluid Choice and Infusion Rate
- 2.9. Coagulation During the Perioperative Period
  - 2.9.1. Coagulation Physiology
  - 2.9.2. Basic Alterations in Perioperative Coagulation
  - 2.9.3. Disseminated Intravascular Coagulation
- 2.10. Perioperative Transfusion
  - 2.10.1. Indications
  - 2.10.2. Transfusion Techniques



*A comprehensive teaching program, structured in well-developed teaching units, oriented towards learning that is compatible with your personal and professional life"*

06

# Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning.***

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.***



A close-up photograph of a horse's head and neck, showing a metal halter and a rope. The horse's fur is light brown and white. The background is a teal gradient.

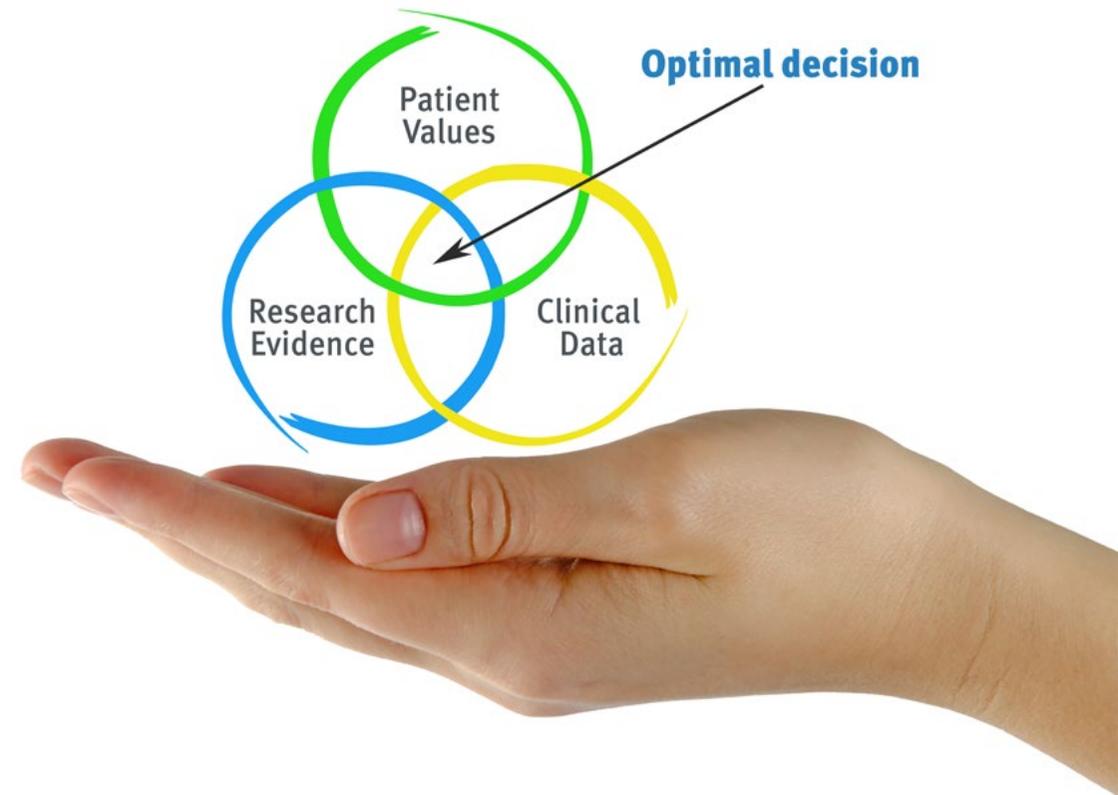
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*Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization".*

## At TECH we use the Case Method

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 abundant 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.



## Re-learning Methodology

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

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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology 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.

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

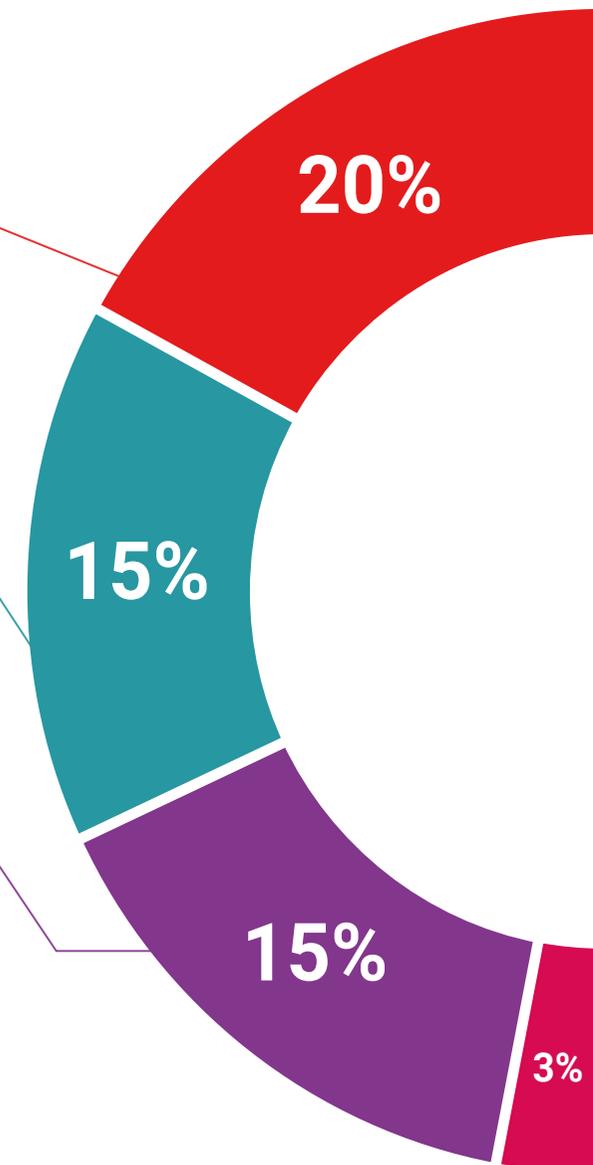
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

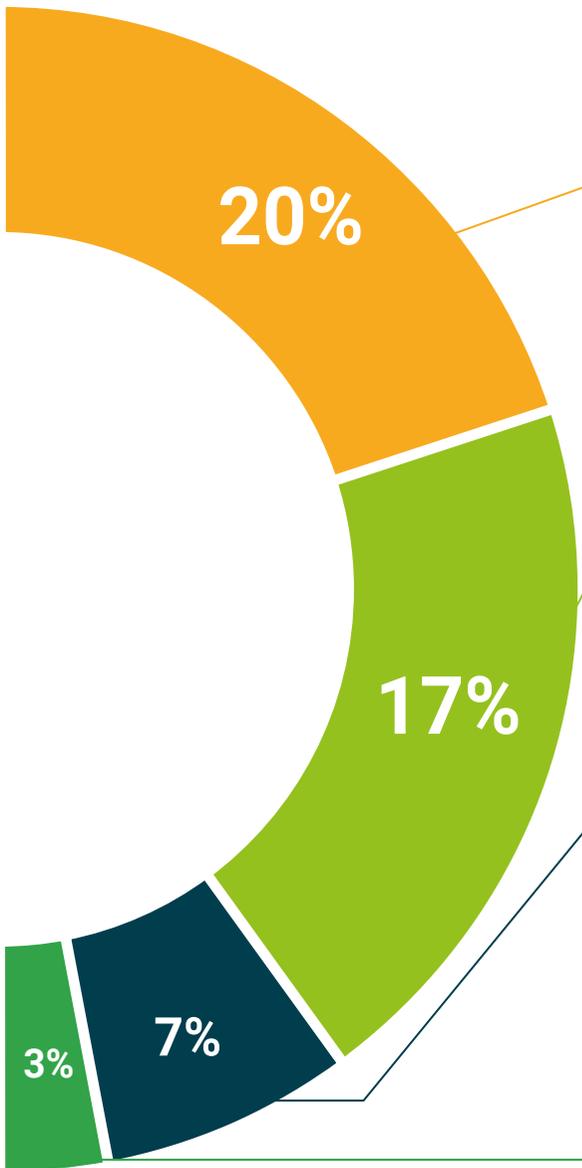
This exclusive multimedia content presentation training Exclusive system was awarded by Microsoft as a "European Success Story".



#### 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 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 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.



07

# Certificate

The Postgraduate Certificate in Introduction to Anesthesia in Veterinary Medicine 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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*Include a Postgraduate Certificate in Introduction to Anesthesia in Veterinary Medicine in your training: a highly qualified added value for any professional in this area”*

This **Postgraduate Certificate in Introduction to Anesthesia in Veterinary Medicine** contains the most complete and up-to-date program on the market.

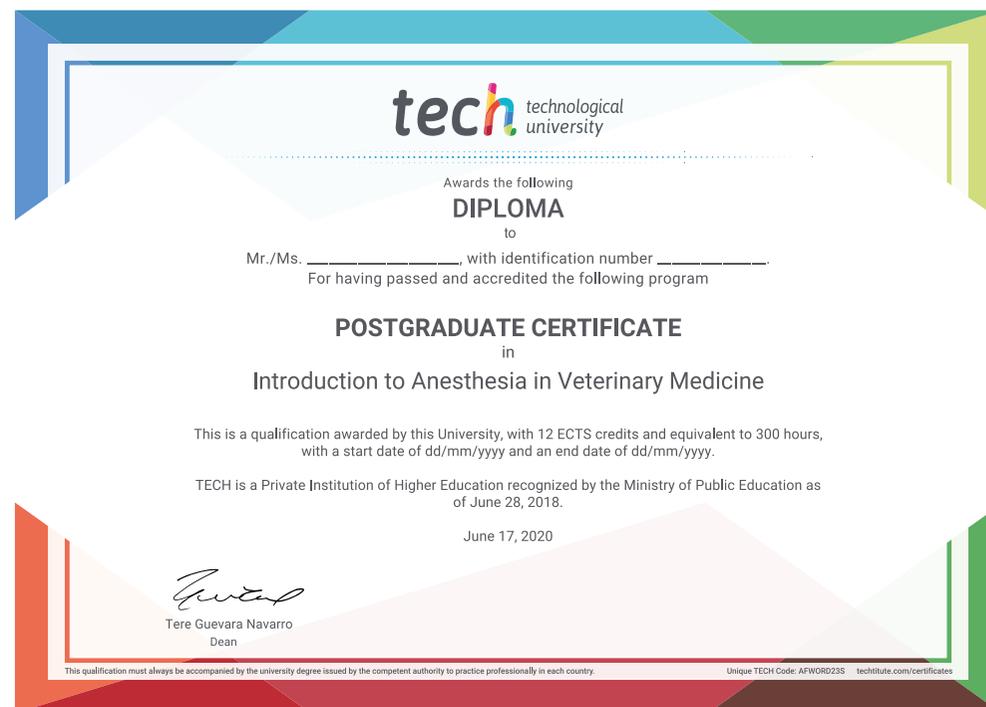
After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery.

This qualification contributes significantly to the professional's continuing education and enhances their training with a highly regarded university syllabus, and is 100% valid for all public examinations, professional careers and job vacancies.

Title: **Postgraduate Certificate in Introduction to Anesthesia in Veterinary Medicine**

ECTS: **12**

Official N° of Hours: **300 hours**.



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

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



## Postgraduate Certificate

### Introduction to Anesthesia in Veterinary Medicine

Course Modality: Online

Duration: 3 months.

Certificate: TECH Technological  
University

12 ECTS Credits

Teaching Hours: 300 hours.

# Postgraduate Certificate Introduction to Anesthesia in Veterinary Medicine

