

# Postgraduate Certificate Swine Anesthesia and Surgery





## Postgraduate Certificate Swine Anesthesia and Surgery

Course Modality: **Online**

Duration: **6 weeks**

Certificate: **TECH Technological University**

Official N° of Hours: **150 h.**

Website: [www.techtute.com/veterinary-medicine/postgraduate-certificate/swine-anesthesia-surgery](http://www.techtute.com/veterinary-medicine/postgraduate-certificate/swine-anesthesia-surgery)

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# 01

# Introduction

This comprehensive program addresses, from the perspective of animal well-being, the management and methods of on-farm euthanasia, as well as aspects related to animal stunning and slaughter in the slaughterhouse. For this purpose, it is essential for veterinary professionals to have advanced knowledge in swine anesthesia and surgery.



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*With the experience of working professionals  
and the analysis of real success stories, in a  
high-impact training approach”*

Pain relief and prevention in swine is, as in all other species, a legal requirement and a matter of professional ethics. In order to treat pain properly, it is necessary to have the tools to identify, measure and classify it.

The biosafety conditions in swine breeding and production require that both anesthetic and surgical procedures must be performed on the farm itself. Therefore, it is essential to adapt anesthetic and surgical techniques to field conditions, far from the sterility of an operating room and the safety provided by anesthetic monitoring.

There are some pathologies such as inguinal and umbilical hernias, or rectal or vaginal prolapses whose only resolution option is surgery. Clinical swine veterinarians must be prepared to face these situations by providing adequate anesthesia and analgesia to correctly perform any surgical intervention.

Another very current problem in Spain and throughout the European Union is caudophagia and tail docking as a preventive method. Given that tail docking is considered the last resort in the prevention of caudophagia, it is essential to manage the factors that trigger this problem in order to learn about and apply other alternatives to tail docking in the prevention of caudophagia.

There are situations in which, given the impossibility of resolving the pathology and avoiding suffering, professionals must resort to humane euthanasia.

The Postgraduate Certificate in Swine Anesthesia and Surgery contains the most complete and updated academic program on the market. The contents are accessible from any fixed or portable device with an Internet connection, which guarantees students will be able to use their available time to achieve this double objective: specialization and qualification. Furthermore, the program's methodological design integrates the latest advances in educational technology that will facilitate learning.

This **Postgraduate Certificate in Swine Anesthesia and Surgery** contains the most complete and up-to-date academic program on the market. The most important features include:

- ♦ The latest technology in online teaching software
- ♦ A highly virtual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- ♦ Practical cases presented by practicing 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 availability from any fixed or portable device with an Internet connection
- ♦ Supplementary documentation databases are permanently available, even after finishing the course



*Join the elite with this highly effective Postgraduate Certificate, which will open new paths for your professional development”*

“*A complete training program that will allow you to acquire the most advanced knowledge in all the areas of intervention of a specialized veterinarian*”

Our teaching staff is made up of professionals in different fields related to this specialty. That way, TECH ensures students the updating objective it aims to provide. A multidisciplinary team of professionals specialized and experienced in different environments, who will develop the theoretical knowledge in an efficient way, but above all, they will bring their practical knowledge from their own experience to the course: one of the differential qualities of this training.

The efficiency of the methodological design of this Professional Master's Degree, enhances the student's understanding of the subject. 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 easy-to-use and versatile multimedia tools that will give you the necessary skills you need for your specialization.

The design of this program is based on Problem-Based Learning: An approach that conceives learning as an eminently practical process. To achieve this remotely, TECH uses telepractice learning: 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 students to integrate and focus their learning in a more realistic and permanent way.

*Our innovative telepractice concept will give you the opportunity to learn through an immersive experience, which will provide you with a faster integration and a much more realistic view of the contents: “Learning from an expert”.*

*A complete and total update in Swine Anesthesia and Surgery with the most comprehensive and effective program in the online academic market.*



# 02 Objectives

Our objective is to train highly qualified professionals for the work environment. 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 materialized in helping professionals to reach a much higher level of competence and control. A goal that you will be able to achieve in just a few months, with a high intensity and effective specialization.







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*If your objective is to broaden your skills set to include new paths of success and development, this is your Professional Master's Degree: a training that aspires to excellence”*



## General Objectives

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- Identify all clinical signs associated with pain in swine
- Establish an anesthetic and analgesic protocol in pigs according to the surgical intervention to be performed
- Establish the most appropriate surgical technique either based on the pathology or prophylactically based
- Establish the criteria for euthanasia in swine and select the most appropriate method in each case
- Perform anesthetic management of pigs as a model for animal experimentation



*A path to achieve training and professional growth that will propel you toward a greater level of competitiveness in the job market"*





## Specific Objectives

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- ♦ Accurately recognize the signs of acute or chronic pain in swine
- ♦ Analyze preventive measures for caudophagia by farm type
- ♦ Adequately administer the analgesia required for pain management
- ♦ Determine an anesthetic and surgical approach to female and male pig castration
- ♦ Propose an anesthetic and surgical approach to perform a cesarean section
- ♦ Develop an anesthetic and surgical approach to resolve different types of hernias and situations of uterine or rectal prolapse
- ♦ Present the decision-making criteria regarding animal euthanasia and propose the most appropriate method on the farm
- ♦ Review physiological and anesthetic considerations in the case of experimental swine models

03

# Course Management

Within the concept of total quality of our program, we are proud to put at your disposal a Teaching Staff of the highest level, chosen for their proven experience. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.





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*Our teaching team, experts in Swine Anesthesia and Surgery, will help you succeed in your profession”*

## Management



### Dr. Falceto Recio, Victoria

- Degree in Veterinary Medicine from the University of Zaragoza
- President of the board of directors AVPA at Pig Veterinary Association of Aragon
- Secretary of the board of directors ANAVEPOR National Association of Pig Veterinarians
- Spokesperson for the Board of Directors of ANAPORC Association of Scientific Pork Producers
- Member of AERA Spanish Association of Animal Reproduction
- Diploma in Pedagogical Training for university professors at the Institute of Education Sciences, University of Zaragoza
- Advanced Course in Animal Production (Animal Reproduction Cycle from the Mediterranean Agronomic Institute of Zaragoza)
- Substitutions as a rural veterinarian
- Specialization stays at several universities and institutions
- Responsible for the Reproduction and Obstetrics Service at the Veterinary Hospital University of Zaragoza
- Member of the Instituto Universitario de Investigación Mixto Agroalimentario de Aragón IA2 (University Institute of Mixed Agrifood Research of Aragón)



## Professors

### Dr. Bonastre Ráfales, Cristina

- ◆ Degree in Veterinary Medicine from the University of Zaragoza
- ◆ Certificate in Pedagogical Aptitude (CAP), University of Zaragoza
- ◆ Member of the Spanish Society of Veterinary Anesthesia and Analgesia (SEAAV), the Association of Pig Veterinarians of Aragon (AVPA), the National Association of Iberian Pig Veterinarians (ANVEPI) and the Spanish Association of Small Animal Veterinarians (AVEPA)
- ◆ Assistant Professor in the Department of Animal Pathology
- ◆ Veterinarian in small animal clinics with special dedication to Anesthesia and Surgery, 1999-2017
- ◆ Anesthesiologist in the Anesthesiology and Resuscitation Service at the Veterinary Hospital, University of Zaragoza, 2009-present
- ◆ Anesthesiologist in the Minimally Invasive Surgery Service at the Veterinary Hospital of the University of Zaragoza, 2017-present

04

# Structure and Content

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

A complete and well-structured program that will take you to the highest standards of quality and success.







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

## Module 1. Anesthesia and Surgery

- 1.1. Legislation: Current Regulations
  - 1.1.1. Animal Welfare Legislation
  - 1.1.2. Swine Castration Legislation
  - 1.1.3. Rabbeting Legislation
  - 1.1.4. Legislation on Stunning and Euthanasia Methods
  - 1.1.5. Legislation on Pigs as Experimental Animals
- 1.2. Pain and Pain Assessment
  - 1.2.1. Definition of Pain
  - 1.2.2. Pain Pathogenesis
  - 1.2.3. Signs of Pain in Swine
  - 1.2.4. Pig Grimace Scale for Pain Assessment
  - 1.2.5. Implications and Consequences of Pain
- 1.3. Anesthesia and Analgesia
  - 1.3.1. General Concepts
  - 1.3.2. Anesthetic and Analgesic Drugs in Swine
  - 1.3.3. Immobilization or Chemical Containment Techniques
  - 1.3.4. Injectable General Anesthesia Techniques
  - 1.3.5. Inhalation General Anesthesia Techniques
  - 1.3.6. Locoregional Anesthesia Techniques
  - 1.3.7. Prolonged Analgesia
- 1.4. Surgical Castration
  - 1.4.1. Introduction
  - 1.4.2. Anesthesia in Swine Castration
  - 1.4.3. Analgesia in Swine Castration
  - 1.4.4. Surgical Castration Techniques
  - 1.4.5. Postoperative Complications
- 1.5. Hernia Surgical Resolution
  - 1.5.1. Introduction
  - 1.5.2. Diagnosis and Hernia Types
  - 1.5.3. Anesthesia in Hernia Surgery Resolution
  - 1.5.4. Analgesia in Hernia Surgery Resolution
  - 1.5.5. Surgical Technique in Hernia Surgery Resolution
  - 1.5.6. Postoperative Complications
- 1.6. Caudophagia
  - 1.6.1. Definition of Caudophagia
  - 1.6.2. Etiology
  - 1.6.3. Types of Caudophagia
- 1.7. Rabbeting
  - 1.7.1. Definition of Rabbeting
  - 1.7.2. Rabbeting Methods
  - 1.7.3. Rabbeting Consequences and Implications
  - 1.7.4. Alternatives to Rabbeting
- 1.8. Cesarean Section, Rectal Prolapse and Uterine Prolapse
  - 1.8.1. Cesarean Section Objectives and Indications
  - 1.8.2. Anesthesia and Analgesia in Cesarean Sections
  - 1.8.3. Surgical Cesarean Section Techniques
  - 1.8.4. Rectal Prolapse: Definition and Etiology
  - 1.8.5. Anesthesia and Analgesia for the Resolution of Rectal Prolapses
  - 1.8.6. Surgical Technique for the Resolution of Rectal Prolapse
  - 1.8.7. Vaginal Prolapse: Definition and Etiology
  - 1.8.8. Anesthesia and Analgesia for the Resolution of Vaginal Prolapses
  - 1.8.9. Surgical Technique for the Resolution of Vaginal Prolapse
- 1.9. Euthanasia and Animal Welfare
  - 1.9.1. Introduction and Definitions
  - 1.9.2. Animal Welfare regarding Slaughter and Euthanasia
  - 1.9.3. Stunning and Slaughtering
  - 1.9.4. Decision Criteria for Euthanasia
  - 1.9.5. Animal Management during Euthanasia
  - 1.9.6. Euthanasia Methods on the Farm
- 1.10. Swine as Experimental Animals
  - 1.10.1. Introduction
  - 1.10.2. Physiological Considerations for Swine
  - 1.10.3. Anesthetic Considerations for Swine
  - 1.10.4. Anesthetic Technique Selection
  - 1.10.5. Anesthetic Procedure Monitoring
  - 1.10.6. Anesthetic Complications



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*This training 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.





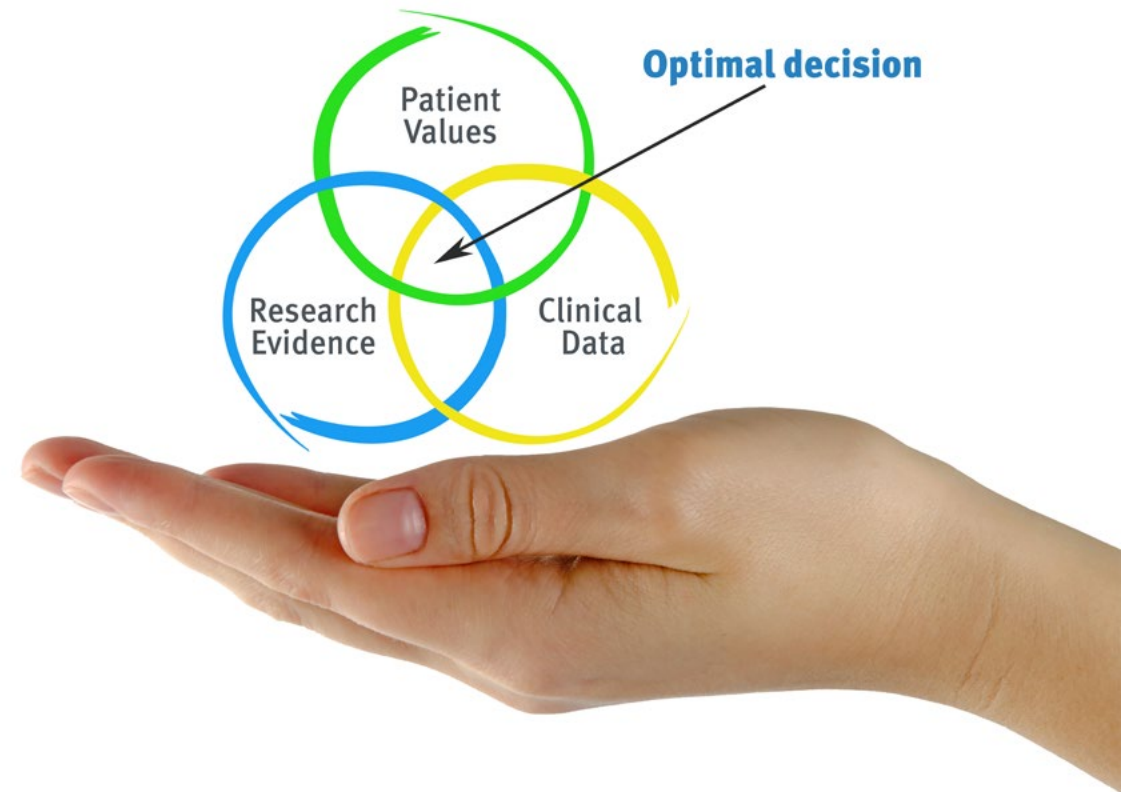
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

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

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

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

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



## Relearning Methodology

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

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

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





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

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

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

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

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



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



#### Study Material

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

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



#### Latest Techniques and Procedures on Video

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



#### Interactive Summaries

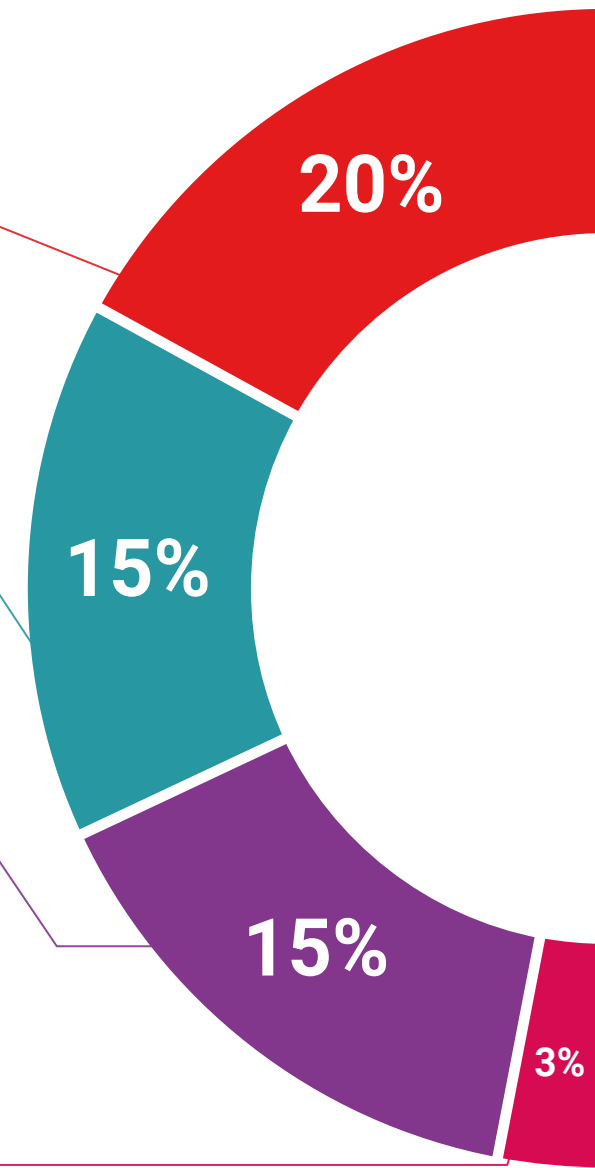
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

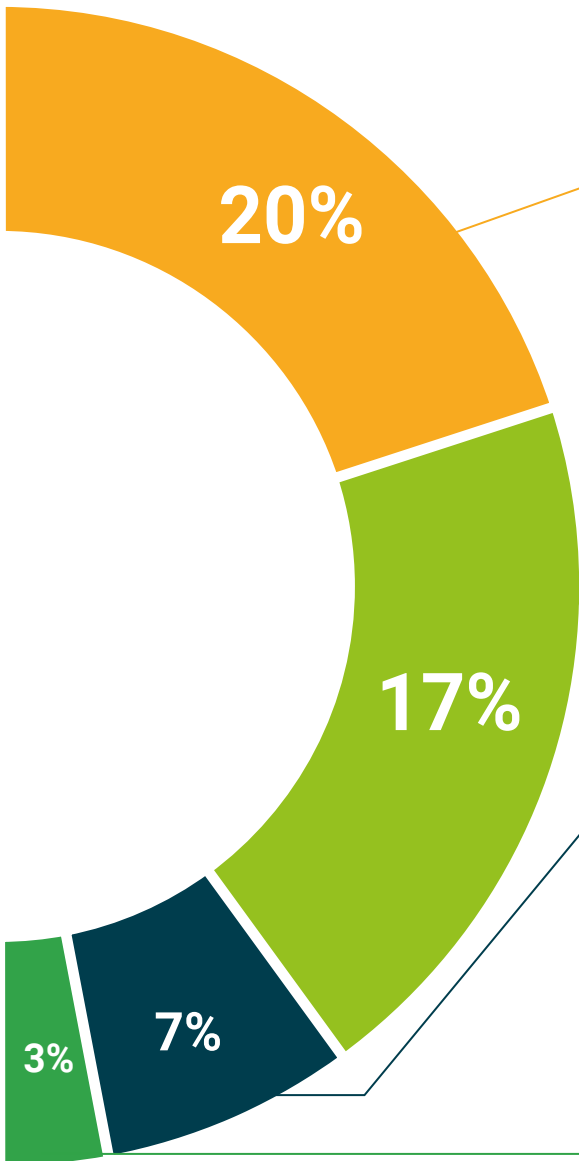
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

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





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

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



#### Testing & Retesting

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



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful. Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

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



# 06 Certificate

The Postgraduate Certificate in Swine Anesthesia and Surgery guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Swine Anesthesia and Surgery** 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\*

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the **Postgraduate Certificate**, and meets the requirements commonly demanded by job markets, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Certificate in Swine Anesthesia and Surgery**

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 quality  
online training  
development language  
classroom



**Postgraduate Certificate**  
Swine Anesthesia  
and Surgery

Course Modality: Online

Duration: 6 weeks

Certificate: TECH Technological University

Official N° of Hours: 150 h.

# Postgraduate Certificate

## Swine Anesthesia and Surgery

