Postgraduate Certificate
Animal Production and Ruminant Anatomopathological Diagnosis

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Postgraduate Certificate

Animal Production and Ruminant Anatomopathological Diagnosis

Course Modality: **Online**

Duration: **6 weeks**

Certificate: **TECH Technological University**

Official Nº of Hours: **150 h.**

Website: **www.techtitute.com/us/veterinary-medicine/postgraduate-certificate/animal-production-ruminant-anatomopathological-diagnosis**

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01

Introduction

In the training process in veterinary medicine and, especially, in ruminant or collective medicine, it is essential to acquire a series of clinical skills to face the different neurological and ophthalmic pathologies. This intervention is highly determined by the need to work in the hygienic and practical conditions that the field veterinarians carry with them. This program is the best tool in the educational market to acquire in a fast way and with total quality, all this specific knowledge that will make the difference in the results of the professionals' work with the quality that their development needs.

The approach to neurological and ophthalmic diseases in ruminants, with all the specific developments that field work brings with it, in a Postgraduate Certificate focused on real practice"

When working with ruminants, as the production animals that they are, it is considered essential to learn about Animal Production, which is combined with Anatomopathological Diagnosis, a fundamental part in the diagnosis of herd pathologies.

The first topics of the Postgraduate Certificate deal with the study of necropsy together with the differential lesion diagnoses in the most frequent processes of ruminants, in addition to transmissible spongiform encephalopathies.

With respect to production, it examines the productive management of dairy cattle, beef cattle, and small ruminants for both meat and milk. Production management is focused on animal welfare, reducing environmental impact as much as possible. All this added with the optimization of the feeding for the different types of productions in their different productive phases.

Finally, a major basis of productivity is based on genetic potential. The last topic analyzes genetic improvement and selection with different methodologies that allow us to increase economic profitability.

Essential yet rare training for the specialist veterinary clinician that will set you apart as a specialist in this field of work"

This **Postgraduate Certificate in Animal Production and Ruminant Anatomopathological Diagnosis** contains the most complete and up-to-date educational program on the market. The most important features of the program include:

- 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-assessment and learning verification
- Support groups and educational synergies: questions to the expert, debate and knowledge forums.
- Communication with the teacher and individual reflection work
- Availability of content from any fixed or portable device with internet connection
- Complementary documentation banks permanently available, even after the course

The clinical, specialized and advanced fundamentals, based on veterinary evidence, that will allow you to face the daily intervention in cattle and ruminants"

Our teaching staff is made up of professionals from different fields related to this specialty. In this way, TECH makes sure to offer professionals the up-to-date objective it intends. A multidisciplinary team of professionals trained and experienced in different environments who will develop theoretical knowledge efficiently, but, above all, will provide students with practical knowledge derived from their teaching experience: one of the differential qualities of this program.

This mastery of the subject is complemented by the effectiveness of the methodological design. Developed by a multidisciplinary team of *e-Learning* experts, it integrates the latest advances in educational technology. In this way, the student will be able to study with comfortable and versatile multimedia tools that will give them the operability they need in their 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 telepractice will be used: with the help of an innovative system of interactive videos and *Learning from an Expert* they will be able to acquire the knowledge as if they were facing the case you are learning at that moment. A concept that will make it possible to integrate and fix learning in a more realistic and permanent way.

With a methodological design based on proven teaching techniques, this innovative program will take you through different teaching approaches to allow you to learn in a dynamic and effective way"

Supported by evidence, the approach of this program will allow you to learn in a contextual way and acquire the skills you will really need in your daily practice"

02

Objectives

The completion of this Postgraduate Certificate provides the veterinary professional with specialized and advanced clinical fundamentals, based on evidence to face the daily clinical practice in cattle and ruminants.

In addition to this up-to-date approach to the problems encountered in daily clinical practice, the bibliography provided and the structuring of the topics will allow you to keep this knowledge up to date.

The Postgraduate Certificate in Animal Production and Ruminant Anatomopathological Diagnosis will allow veterinary clinicians to update and broaden their knowledge and skills in Ruminant Medicine and Surgery"

General Objectives

- Obtain productive yields in beef and dairy cattle in an economically viable manner and in a context of production sustainability
- Manage animal feeding as an element for the technical-economic optimization of milk production in cattle, respecting animal welfare and minimizing environmental impact
- Advise and manage, technically and economically, the reproductive plans of small ruminant farms
- Manage a farm animal population from a genetic point of view and initiate or complete their specialization in notions of genetic improvement and selection

A comprehensive program that will boost your ability to work in prevention, management and cost reduction in animal production, giving you greater competitiveness in the labor market"

Specific Objectives

- Adequate interpretation of dairy cattle production parameters and assessment of new management and adaptation models in the face of a climate change scenario
- Optimal management of beef cattle farms within the framework of sustainability and animal welfare
- Advise and manage, technically and economically, the reproductive plans of small ruminant farms
- Assess and interpret production parameters in a small ruminant farm, considering economic and welfare aspects
- Design action protocols and technologies to optimize small ruminant farms, whether for dairy or meat production
- Analyze the feeding of dairy cows in a sustainable environment while maintaining production objectives, using, as much as possible, grazing resources
- Manage the feeding of maternal beef cows in a sustainable environment maintaining production objectives and using, as much as possible, grazing resources Optimization of the fattening process through the use of by-products
- Examine the feeding of herds in a sustainable environment while maintaining production objectives, using, as much as possible, grazing resources, optimizing the lamb fattening process through feeding strategies
- Establish the concepts of consanguinity and kinship Estimate these parameters in a domestic cattle population as a basis for a correct genealogical management of the population
- Estimate the fundamental genetic parameters of a population: repeatability and heritability as a basis for a correct approach to genetic improvement.
- Use the methodologies required for genetic improvement through selection

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.

An impressive teaching staff, made up of professionals of the highest level, will be the professors throughout the program, providing the most real, close and current learning experience"

Management

Dr. Ezquerra Calvo, Luis Javier

- PhD in Veterinary Medicine from the University of Extremadura (1987).
- Degree in Veterinary Medicine from the University of Zaragoza 1982
- Specialist in Applied and Experimental Animal Surgery University of Zaragoza, 1982
- Specialist in Animal Reproduction and Artificial Insemination University of Zaragoza, 1985
- Diploma of the European College of Veterinary Surgeons (Large Animals). 1998
- Presents 6 five-year teacher evaluation periods

Professors

Dr. Moreno Burgos, Bernardino

- PhD in Veterinary Medicine from the University of Zaragoza, in 1994
- Degree in Veterinary Medicine from the University of Zaragoza, in 1989

Dr. Badiola Díez, Juan José

- PhD in Veterinary Medicine by the Complutense University of Madrid in 1975.
- Degree in Veterinary Medicine with Distinction and Extraordinary Award from the Complutense University of Madrid in 1972
- Diploma in Veterinary Pathology from the European College of Pathology, 1995

Dr. Acín Tresaco, Cristina

- PhD in Veterinary Medicine from the University of Zaragoza and Extraordinary Doctorate Award from the same University (2004)
- Degree in Veterinary Medicine from the University of Zaragoza in 1999
- Diploma of Advanced Studies (2001)

Dr. Rodríguez Medina, Pedro Luis

- Secretary, Vice-Dean and Dean of the Faculty of Veterinary Medicine of the University of Extremadura, Cáceres
- PhD in Veterinary Medicine from the University of Extremadura (1989).
- Degree in Veterinary Medicine from the University of León, 1984

Dr. Hornillo Gallardo, Andrés

- Degree in Veterinary Medicine from the University of Extremadura, and PhD in Veterinary Medicine from the same University in 2020.
- Venia Docendi granted to Scientific and Research personnel by the University of Extremadura in the area of Animal Production and Food Science.
- Venia Docendi granted to Scientific and Research personnel by the University of Extremadura in the area of Animal Production and Food Science and in the area of Economics, at the School of Agricultural Engineering.
- Accreditation by the Technical Education Committee of the Teacher Evaluation Program of the National Agency for Quality Assessment and Accreditation (ANECA), assistant professor doctor
- Research in the Analysis of Extensive Animal Production Systems, analyzing sustainable production models, technical and economic analysis of livestock and agri-food systems.
- High-level publications of the first decile in JCR. Participation in a regionally competitive project and inclusion in a research group of the University of Extremadura.

04

Structure and Content

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

A very complete and well-structured program that will lead the professional to the highest standards of quality and success.

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

Module 1. Animal Production and Anatomopathological Diagnosis

1.1. Necropsy and Anatomopathological Diagnosis in Cattle
- 1.1.1. Cattle Necropsy
- 1.1.2. Respiratory Pathology
- 1.1.3. Digestive Pathology
- 1.1.4. Renal Pathology
- 1.1.5. Nervous Pathology
- 1.1.6. Reproductive Pathology
- 1.1.7. Other Pathologies

1.2. Necropsy and Anatomopathological Diagnosis in Small Ruminants
- 1.2.1. Systematic Necropsy Procedure in Small Ruminants
- 1.2.2. Necropsy in the Field
- 1.2.3. Pathological Diagnostic Reasoning
- 1.2.4. Anatomopathological Diagnosis and Main Lesions by Organs and Systems
- 1.2.5. Anatomopathological Report
- 1.2.6. The Suspicion and Anatomopathological Diagnosis of Emerging Diseases in Small Ruminants

1.3. Transmissible Spongiform Diseases
- 1.3.1. Introduction
- 1.3.2. Etiology
- 1.3.3. Clinical Picture of Each Disease
- 1.3.4. Characteristic Lesions
- 1.3.5. Pathogenesis
- 1.3.6. Sensitive and Resistant Genotypes
- 1.3.7. Transmission Mechanisms
- 1.3.8. Diagnostic Methods
- 1.3.9. Epidemiology
- 1.3.10. Monitoring and Control System
- 1.3.11. Implications for Human Health

1.4. Dairy Cattle Nutrition
- 1.4.1. Dairy Cattle Feeding, Reference Standards
- 1.4.2. Evolution of Energy, Protein, Vitamin, Mineral Requirements and Intake Capacity throughout the Production Cycle
- 1.4.3. Feeding Systems Used: Grazing, in Intensive Systems
- 1.4.4. Feeding Strategies for the Mitigation of the Environmental Impact of Bovine Milk Production with Feed Origin
- 1.4.5. Conclusions

1.5. Meat Cattle Nutrition
- 1.5.1. Beef Cattle Feeding, Reference Standards
- 1.5.2. Evolution of Energy, Protein, Vitamin, Mineral Requirements and Intake Capacity throughout the Production Cycle
- 1.5.3. Feeding Systems Used: Herds of Breeding Cows and Calf Feedlots
- 1.5.4. Feeding Strategies for the Mitigation of the Environmental Impact of Bovine Meat Production with Feed Origin
- 1.5.5. Conclusions

1.6. Nutrition in Small Ruminants
- 1.6.1. Feeding of Sheep and Goats, Reference Standards
- 1.6.2. Evolution of Energy, Protein, Vitamin, Mineral Requirements and Intake Capacity throughout the Production Cycle
- 1.6.3. Feeding Systems Used: Female Breeding Herds and Lamb Feedlots
- 1.6.4. Feeding Strategies for the Mitigation of the Environmental Impact of Sheep and Goat Meat Production with Feed Origin
- 1.6.5. Conclusions

1.7. Dairy Cattle Management and Production. Main Production Indexes in the Context of Sustainable Farm Management and Animal Welfare
- 1.7.1. Introduction. Current Situation of Dairy Cattle in the Spanish and Global Context
- 1.7.2. The Animal Base and Farming Systems
  - 1.7.2.1. Intensive Dairy Cattle Systems
  - 1.7.2.2. Dairy Cattle Grazing
- 1.7.3. Main Production Indicators and their Relation to the Lactation Curve
  - 1.7.3.1. Components of the Lactational Cycle
  - 1.7.3.2. Relationship between Production, Persistency and Milk Quality
  - 1.7.3.3. Factors Inherent to Production
  - 1.7.3.4. External Factors
  - 1.7.3.5. Main Productive and Reproductive Indicators

1.7.4. Sustainable Dairy Cattle Farm Management and Animal Welfare. Adaptation to Climate Change
1.7.4.1. Adaptation Mechanisms
1.7.4.2. Protection Against Heat and Water Stress
1.7.4.3. New Climatic Patterns and their Impact on Vegetation and Animal Feed Crops
1.7.4.4. Adaptation through Genotype Selection and Mitigation Systems
1.7.4.5. Impact of Dairy Cattle Farms on Global Atmospheric Warming
1.7.5. Conclusions

1.8. Management of Extensive and Fattening Beef Cattle Farms. Indicators and New Production Trends
1.8.1. Introduction: Current Situation of Beef Cattle in the Spanish and Global Context
1.8.2. Farming Systems and New Management Trends
1.8.2.1. Suckler Cow Farming Systems and Calf Production at Weaning
1.8.2.2. Intensive Calf Fattening
1.8.2.3. Fattening in Grazing
1.8.2.4. Ecological Production Systems
1.8.2.5. Systems Based on Farm Self-Sufficiency and Rotational Grazing
1.8.3. Main Management and Production Indicators
1.8.3.1. Livestock Pressure
1.8.3.2. Growth Indicators and Meat Potential
1.8.3.3. Production Quality Indicators
1.8.4. Adaptation to Climate Change in Beef Cattle Farms
1.8.4.1. Effects on Production Yields
1.8.4.2. New Principles in Food
1.8.4.3. Carbon Sequestration in Extensive Cattle Farms as a Mitigation Measure
1.8.5. Conclusions

1.9. Production Indices in Sheep Meat Farms. Productive Yields and Management of Dairy Sheep
1.9.1. Production Indexes in Small Ruminant Farms
1.9.2. Breeder Management
1.9.3. Replacement Management
1.9.4. Improved Reproductive Efficiency
1.9.5. Design of Reproductive Calendars in Sheep Meat
1.9.6. Design of Reproductive Calendars in Dairy Sheep and Goats

1.10. Genomic Selection Vs. Classical Selection in Cattle and Small Ruminants
- 1.10.1. Genetic Structure of Animal Populations. Consanguinity and Kinship Estimation
- 1.10.2. Estimation of Population Genetic Parameters
  - 1.10.2.1. Repeatability. Estimation and Applications
  - 1.10.2.2. Heritability. Estimation and Applications
- 1.10.3. Genealogies. The Genealogical Kinship Matrix
- 1.10.4. BLUP. Classical Methodology for Genetic Selection
  - 1.10.4.1. History and Concept of the Method
  - 1.10.4.2. Components of the Mixed Model
  - 1.10.4.3. Resolution of the Mixed Model. Matrix Algebra
- 1.10.5. Genomics. Concept and Use in Genetic Improvement
- 1.10.6. The Genomic Kinship Matrix
- 1.10.7. New BLUP Models. "Single Step Model"

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.**

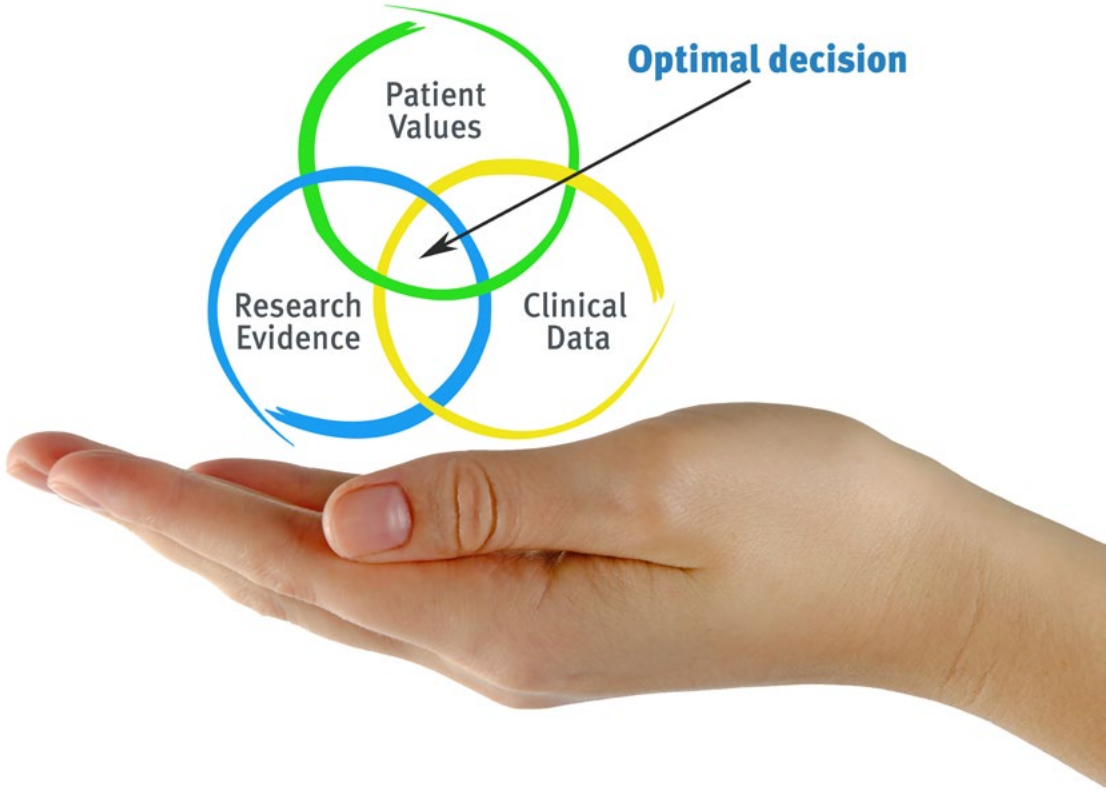
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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.

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:

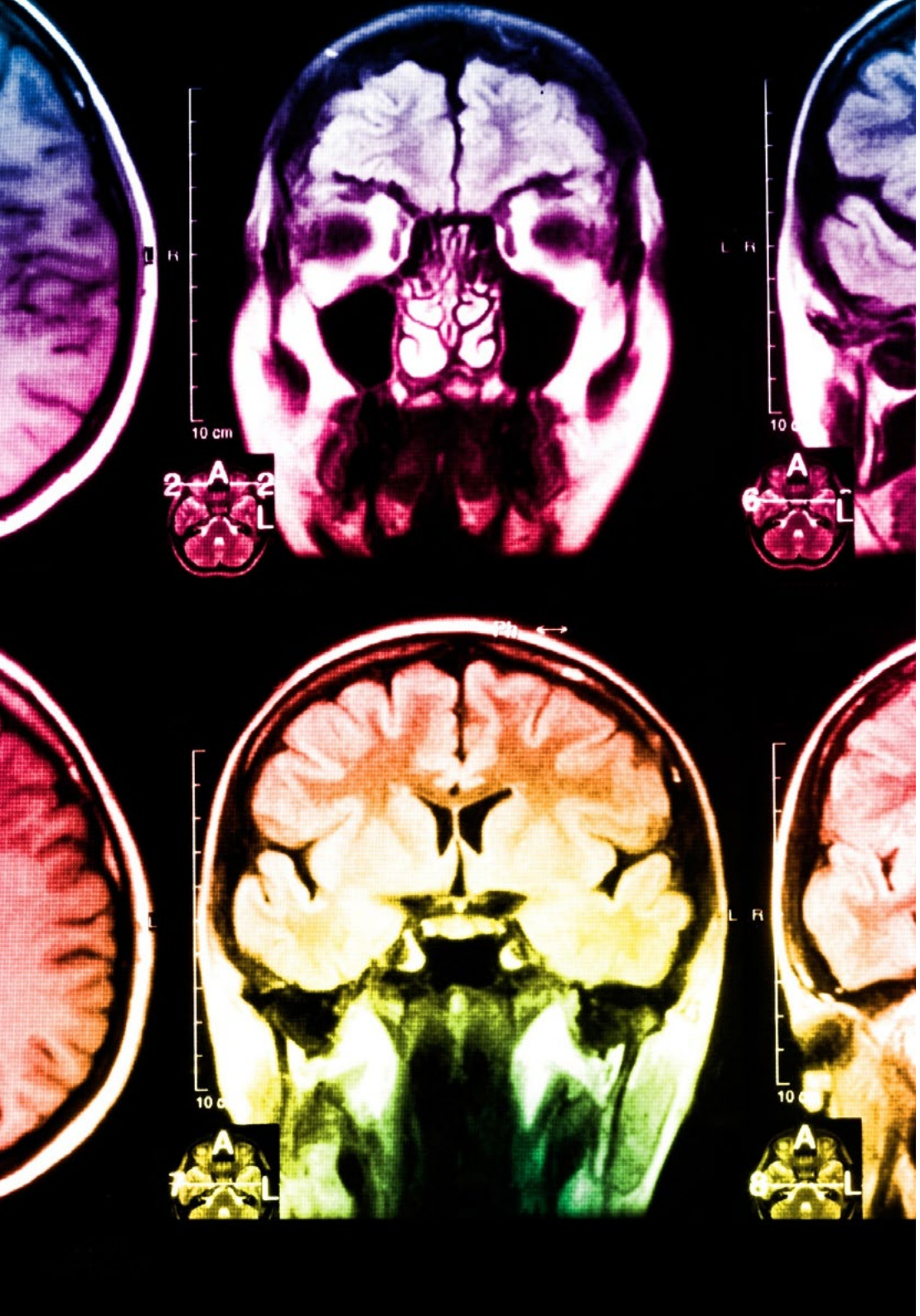
1. Veterinarians who follow this method not only manage to assimilate concepts, but also develop their mental capacity through exercises to evaluate real situations and knowledge application
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real 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.

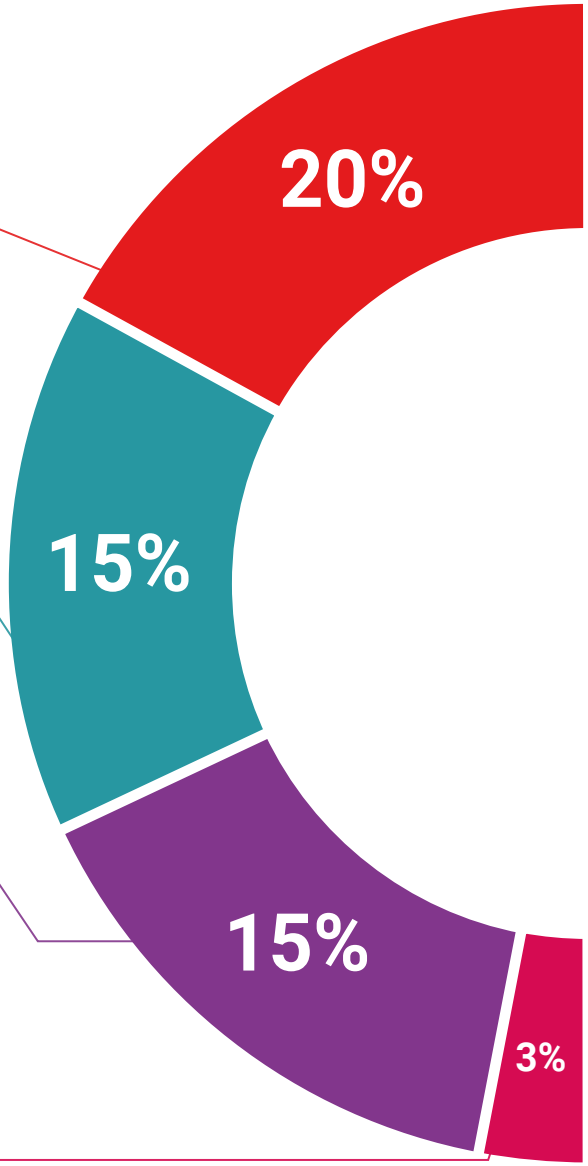
Interactive Summaries

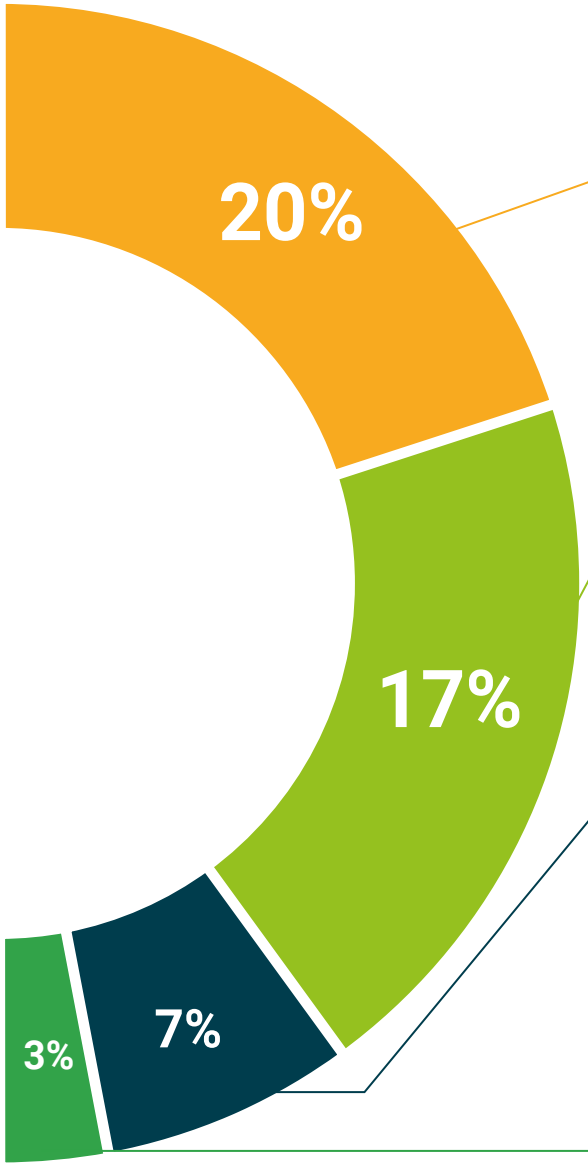
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 Animal Production and Ruminant Anatomopathological Diagnosis guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

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

This **Postgraduate Certificate in Animal Production and Ruminant Anatomopathological Diagnosis** 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 Animal Production and Ruminant Anatomopathological Diagnosis**

Official Nº of Hours: **150 h.**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Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Animal Production and Ruminant Anatomopathological Diagnosis

This is a qualification awarded by this University, equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

*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.

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