

Postgraduate Certificate

Epidemiology in Animal Health





Postgraduate Certificate Epidemiology in Animal Health

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

Website: www.techtitute.com/us/veterinary-medicine/postgraduate-certificate/epidemiology-animal-health

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 16

05

Methodology

p. 20

06

Certificate

p. 28

01

Introduction

The program in Epidemiology in Animal Health aims to provide specialist training for professionals in the field of Animal Health and related fields. It offers training in advanced aspects of Veterinary Epidemiology that can be applied to the prevention and control of infections, pathogens and animal diseases.

The course will provide with the necessary up-to-date knowledge to carry out your work in this area with a higher skill level.

A high-quality program that will propel you to the highest levels in the industry.





“

A complete and total update in Epidemiology in Animal Health with the most complete and effective training program in the online educational market"

The Postgraduate Certificate examines the concepts, definitions and epidemiological tools that allow the professional to consider the uniqueness of epidemiology as a science and its usefulness as a tool in veterinary health management.

It examines the concepts and relevant aspects for the design of veterinary epidemiological studies, the identification and analysis of infection-disease patterns and the identification of causes, associated factors and risk factors.

It brings a multidisciplinary vision to Epidemiology, allowing for the understanding of tools and acquisition of skills for data analysis in Epidemiology and for the spatial analysis of the distribution and dispersion of infection/disease.

In the course we cover the design of Preventive and Control Strategies for infectious and pathological processes in animals based on the knowledge of the epidemiology of these processes.

It projects a holistic view of Veterinary Health Management in an ever-changing world.

The purpose of the Module in Epidemiology in Animal Health is to achieve a theoretical-practical specialization that allows professionals to develop their autonomy in Epidemiological Analysis focused on veterinary health prevention and control.

Through studying this course, the student will gain satisfaction in being able to apply the theoretical knowledge they acquired in concrete practical cases.

This **Postgraduate Certificate in Epidemiology in Animal Health** 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
- ◆ 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
- ◆ 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



Join the elite, with this highly effective training and open new paths to help you advance in your professional progress"

“

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 from different fields related to this specialty. In this way, we ensure that we provide you with the most innovative training we are aiming for. A multidisciplinary team of professionals trained 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 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 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 you to integrate and fix learning in a more realistic and permanent way.

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

With a methodological design based on proven teaching techniques, this innovative course 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 materialized in helping professionals to reach a much higher level of competence and control. A goal that, in just a few months you will be able to achieve, with a high intensity and effective training.



“

If your objective is to broaden your skills set to include new paths of success and development, this is the course for you: a training that aspires to excellence"



General Objectives

- Develop advanced skills and knowledge in Veterinary Epidemiology
- Provide advanced knowledge in the analysis of epidemiological causes, associations, patterns, trends, and risks
- Apply the skills acquired in the design of strategies for the prevention and control of infections/diseases of veterinary relevance

“

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





Specific Objectives

- ◆ Acquire advanced knowledge in Epidemiology
- ◆ Gain specialist knowledge related to the field of Animal Health in the design of Experiments and Epidemiological studies
- ◆ Develop specialized knowledge in the statistical analysis of data in Veterinary Epidemiology
- ◆ Specialize in the use of specific software for Epidemiology
- ◆ Develop skills in Spatial Epidemiology
- ◆ Develop skills in the design of Veterinary Health Prevention and Control strategies
- ◆ Develop skills in the design of Veterinary Health Management



03

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.





“

*Leading professionals in the field have come together to teach you the latest advances
Epidemiology in Animal Health"*

Management



Dr. Ruiz Fons, José Francisco

- ♦ PhD by the UCLM 2006
- ♦ Degree in Veterinary Medicine (2002) from the University of Murcia
- ♦ Member of the Spanish Society for the Conservation and Study of Mammals (SECEM) and the Wildlife Disease Association (WDA)
- ♦ Contracted Predoctoral FPU (2007) of the Ministry of Education and Science at the Institute of Research in Hunting Resources IREC (CSIC-UCLM-JCCM)
- ♦ Postdoctoral contract JCCM and Carlos III Institute of Health at The James Hutton Institute (Aberdeen, Scotland; 01.07.2007-31.08.2008) and at Neiker-Tecnalia (Derio, Biscay; 01.09-2008-31.08.2010), respectively
- ♦ Contracted JAE-DOC CSIC at IREC (2010 to 2011)
- ♦ Supervision of 11 Master's Theses, 3 final Degree theses, 2 Doctoral Theses and 5 Doctoral Theses currently in progress
- ♦ Lecturer in Animal Health, Epidemiology, Prevention, and Control of Diseases shared between Dogs, Cats, and Other Species and Livestock in the UCLM Professional Master's Degree "Basic and Applied Research in Hunting Resources" in the last 12 years
- ♦ Lecturer in Professional Master's Degree in "Animal Medicine, Health, and Improvement" at the University of Cordoba in 2015-16. He has been invited speaker in more than 30 specialization courses for veterinarians, farmers, hunters, and public administration staff, and in conferences and seminars on aspects of the Health of Wild Species and Global Health



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 field.

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



“

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

Module 1. Epidemiology in Animal Health

- 1.1. Concepts and Basis of Epidemiology
 - 1.1.1. Basic Concepts in Epidemiology
 - 1.1.2. The Individual and the Population
 - 1.1.3. Basic concepts of Population Monitoring
 - 1.1.4. Causality and Association
 - 1.1.5. Basic Pathology Concepts
 - 1.1.6. Epidemiology and Demography
 - 1.1.7. Disease and Infection Patterns
 - 1.1.8. Uncertainty in Epidemiology
- 1.2. Experimental Design in Epidemiology
 - 1.2.1. Data Collection in Epidemiology
 - 1.2.2. Sampling Design
 - 1.2.3. Stratification, Representativeness, Balance
 - 1.2.4. Types of Epidemiological Sampling
 - 1.2.5. Sample Size Estimates
 - 1.2.6. Sampling Biases
- 1.3 Descriptive Epidemiology I. Theoretical Bases
 - 1.3.1. Epidemiological Research
 - 1.3.2. Types of Observational Epidemiological Studies
 - 1.3.3. Types of Epidemiological Variables
 - 1.3.4. Descriptive Parameters
 - 1.3.5. Measures of Dispersion
 - 1.3.6. Probability Distributions
 - 1.3.7. Epidemic Curves, Cycles, and Trends
 - 1.3.8. Development of Hypotheses



1.4 Descriptive Epidemiology II. Data Analysis

- 1.4.1. Open-Access Epidemiological Software
- 1.4.2. Sample Size Estimates
- 1.4.3. Probability Distribution Analysis
- 1.4.4. Descriptive Analysis
- 1.4.5. Association Analysis
- 1.4.6. Applications to Diagnostic Tests
- 1.4.7. Analysis of Absence of Disease/Infection

1.5 Analytical Epidemiology I. Theoretical Basis

- 1.5.1. Basis of Analytical Epidemiology
- 1.5.2. Hypothesis Analysis
- 1.5.3. Epidemiological Parameters
- 1.5.4. Independence of Observations
- 1.5.5. Case-control Studies
- 1.5.6. Cohort Studies
- 1.5.7. Experimental Studies
- 1.5.8. Basis of Multivariate Analysis

1.6. Analytical Epidemiology II. Data Analysis

- 1.6.1. Estimates of Association in Case-Control Studies
- 1.6.2. Estimates of Association in Cohort Studies
- 1.6.3. Inference in Experimental Studies
- 1.6.4. Biases and Limitations in Analytical Epidemiology
- 1.6.5. Multivariate Analysis

1.7. Analysis of Risk Factors

- 1.7.1. Definition of Risk Factor
- 1.7.2. Multi-disciplinarity in Risk Factor Analysis
- 1.7.3. Qualitative Risk Analysis
- 1.7.4. Quantitative Risk Analysis
- 1.7.5. Applications of Mathematical Modeling in Risk Analysis

1.8. Spatial Epidemiology

- 1.8.1. Basis of Spatial Epidemiology
- 1.8.2. Contagiousness, Transmission, and Basic Reproductive Rate
- 1.8.3. Spatial Connectivity
- 1.8.4. Spatial Dispersal Patterns
- 1.8.5. Molecular Epidemiology
- 1.8.6. Disease/Infection Maps
- 1.8.7. Spatial Correlation Studies
- 1.8.8. Cluster Analysis
- 1.8.9. Network Analysis

1.9. Applications of Epidemiology for Prevention and Control

- 1.9.1. Design of Risk-Based Prevention Strategies
- 1.9.2. Design of Biosecurity Measures
- 1.9.3. Control of Risk Factors
- 1.9.4. Mathematical Models applied to Prevention and Control

1.10. Veterinary Health Management

- 1.10.1. Epidemiological Surveillance Concepts and Systems
- 1.10.2. Concepts in Veterinary Health Management
- 1.10.3. Hygiene and Prevention
- 1.10.4. Zoning

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 Epidemiology in Animal Health guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Global University.





“

*Successfully complete this program
and receive your university degree
without travel or laborious paperwork”*

This program will allow you to obtain your **Postgraduate Certificate in Epidemiology in Animal Health** 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 Epidemiology in Animal Health**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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



Postgraduate Certificate Epidemiology in Animal Health

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

Postgraduate Certificate

Epidemiology in Animal Health

