



Postgraduate Certificate

Update on Veterinary Chemotherapy

» Modality: online

» Duration: 12 weeks

» Certificate: TECH Global University

» Accreditation: 12 ECTS

» Schedule: at your own pace

» Exams: online

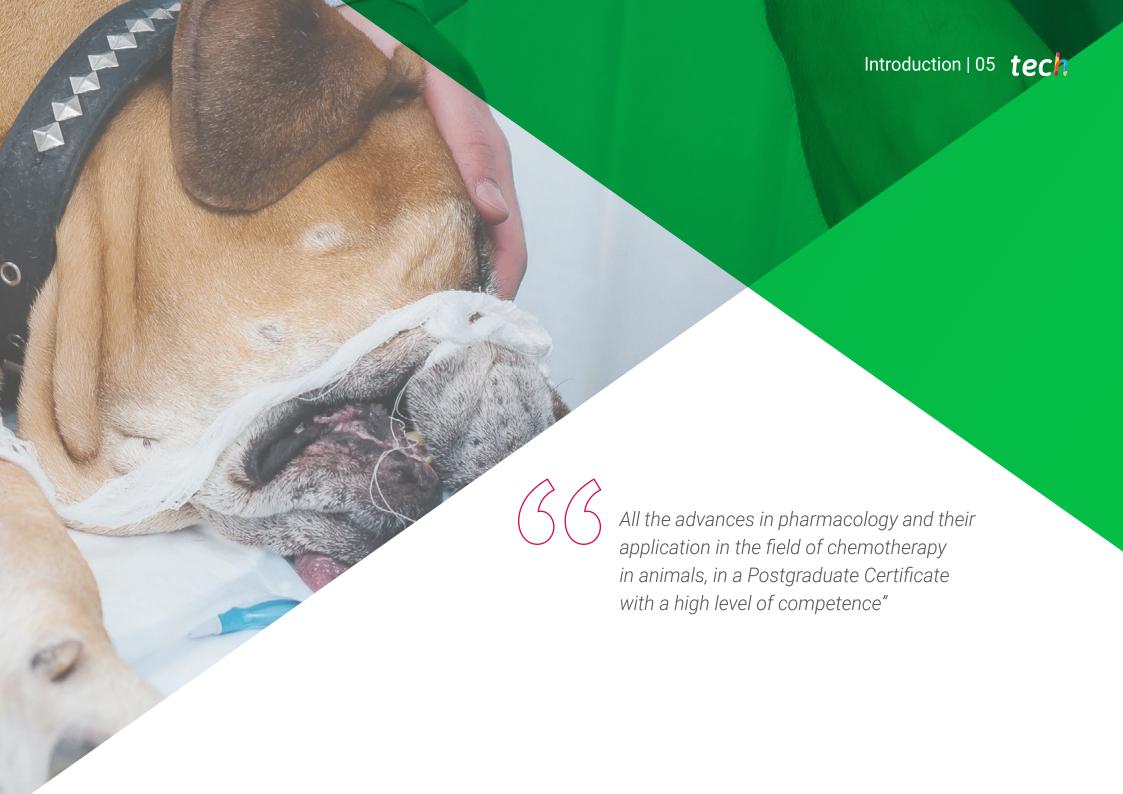
Website: www.techtitute.com/us/pharmacy/postgraduate-certificate/update-veterinary-chemotherapy

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 $\begin{array}{c|c} 01 & 02 \\ \hline & & \text{Objectives} \\ \hline & & & \\ \hline & & \\ \hline & & & \\ \hline & &$

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tech 06 | Introduction

Antineoplastic pharmacology studies drugs that act on neoplastic cells that may occur in animals. Pharmacology intervenes by trying to eliminate them in their entirety, affecting the patient's normal cells as little as possible. This Postgraduate Certificate offers you all the advances in this field, in a high-quality program that offers the most advanced resources in online learning, to guarantee the student an effective, real and practical learning that boosts their competencies to the highest level in this field.

The content of each topic provides the student with comprehensive education in the theoretical and practical aspects of Veterinary Pharmacology. The practical cases that are presented make the program unique by applying different simulated situations that will allow the student to develop skills for their performance in a real clinical environment.

The program includes practical activities to facilitate students' acquisition and mastery of the theory learned, supporting and complementing the knowledge acquired in the theoretical teaching. The contents are presented to the professional in an attractive and dynamic way in multimedia packages that include videos, images and diagrams in order to reinforce knowledge.

Thanks to its innovative teaching methodology, it allows the student to follow its contents in a totally flexible and personalized way, with great availability on the part of the teachers for consultations, doubts or tutorials.

This Postgraduate Certificate will bring you up to date on all of them and the new forms and protocols of action.

This **Postgraduate Certificate in Update on Veterinary Chemotherapy** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Practical cases presented by experts in Veterinary Pharmacology
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection



A Postgraduate Certificate created to examine and explain the main pharmacological properties of antineoplastic drug groups"



A revolutionary program for its ability to reconcile the highest quality of learning with the most complete online specialization"

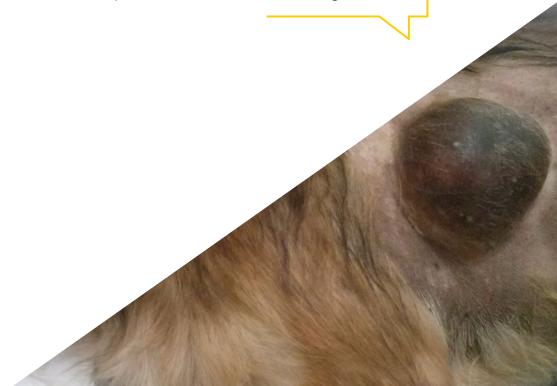
The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

A great opportunity for the veterinary medicine professional to advance their skills and catch up on all the latest developments in pharmacological approaches.

Learn in an efficient way, with a real qualification objective, with this unique Postgraduate Certificate for its quality and price, in the online teaching market.





The design of the Postgraduate Certificate will allow the student to acquire the necessary competences to update in the profession after delving into the key aspects of Veterinary Pharmacology. Its objective is to provide the students with the required competencies in relation to preclinical or clinical research of drugs used in veterinary medicine, and their application in the therapeutic use of drugs so that they can better incorporate into the professional field. The knowledge acquired in the development of the points of the syllabus will drive the professional from a global perspective, with full capacity to achieve the proposed goals.

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A complete update that will allow you to act according to the most up-to-date protocols in the use of antineoplastic drugs"

tech 10 | Objectives

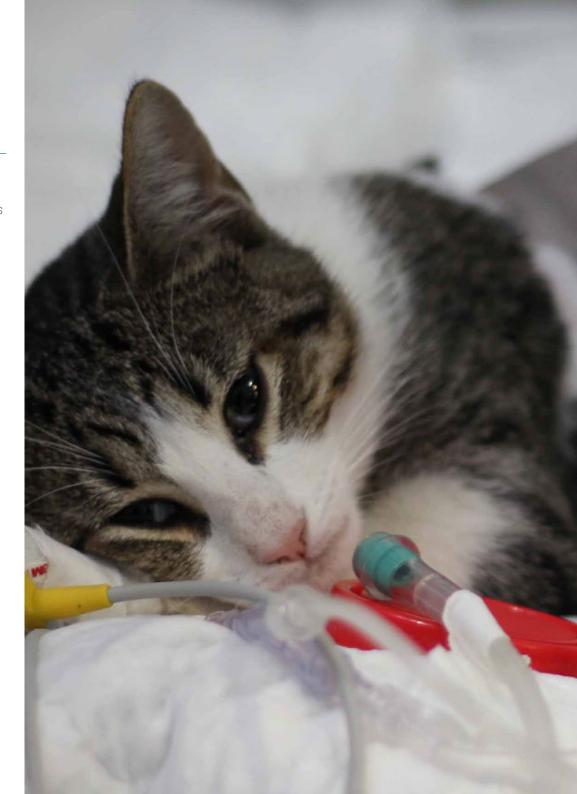


General Objectives

- Examine and explain the main pharmacological properties of the anti-infective drug groups
- Identify the different pharmacological targets involved in anti-infective agents
- Recognize the main pharmacological characteristics (mechanism of action, pharmacokinetics, and therapeutic and toxic effects) of groups of anti-infective drugs
- Examine and explain the main pharmacological properties of the antineoplastic drug groups
- Identify the different pharmacological targets involved in antineoplastic agents
- Know the main toxic effects of antineoplastic drugs



Take the step to get up to date on the latest developments in Update on Veterinary Chemotherapy"





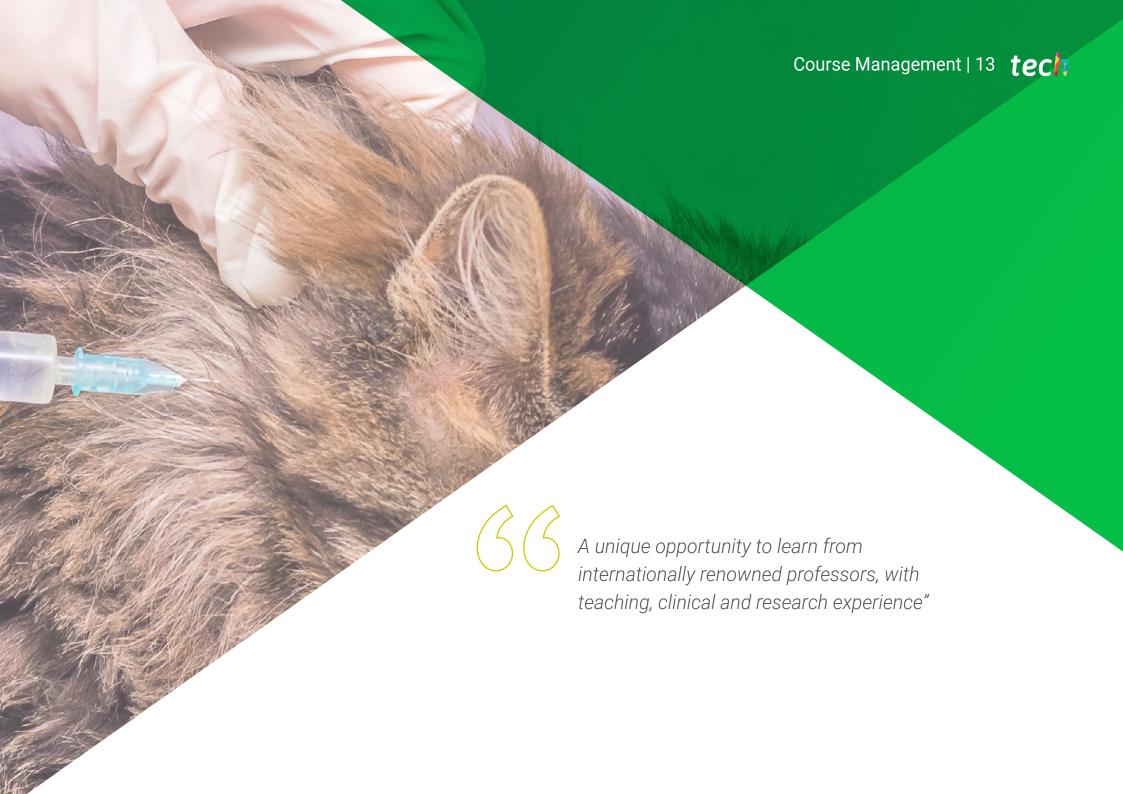


Specific Objectives

- Analyze the historical development of antiseptic and chemotherapeutic substances
- Point out the general principles of chemotherapy and the drugs that comprise it
- Define the concepts of antiseptic and antibiotic
- Explain the mechanisms of antibiotic resistance
- Classify antibiotics according to mechanism of action
- Describe each of the groups of antibiotics and know their mechanism of action
- Classify antifungal and antiviral drugs
- Analyze the importance of antiparasitics in veterinary medicine
- Analyze cancer in small animals
- Point out the general principles in the use of antineoplastic drugs
- Know the care in the application of antineoplastic drugs
- Classify the main families of chemotherapeutics
- Determine the main drugs for palliative use in neoplasms
- Consider the use of each antineoplastic according to the pathology
- Analyze the main toxicity effects of antineoplastic drugs
- Describe each of the groups of antifungal and antiviral drugs and their mechanism of action







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Management



Dr. Santander Ballestín, Sonia

- Associate Professor of the Department of Pharmacology and Physiology. University of Zaragoza
- Degree in Biology and Biochemistry, specializing in the area of Pharmacology.
- Teaching Coordinator, Department of Pharmacology, University of Zaragoza, Spain.
- PhD with the European Degree from the University of Zaragoza.
- Professional Master's Degree in Environment and Water Management. Andalusia Business School
- Professor in the Postgraduate Certificate "Introduction to Pharmacology: Principles for the Rational Use of Drugs" Basic Program of the University of Experience of Zaragoza.
- Evaluation professor in objective structured clinical evaluation of the medical degree.

Professors

Ms. Luesma Bartolomé, María José

- Veterinarian. Study Group on Prion Diseases, Vectorial Diseases and Emerging Zoonoses at the University of Zaragoza
- University Research Institute Study Group
- Film and anatomy teacher. University degree: Complementary Academic Activities
- Professor of Anatomy and Histology University degree: Graduate in Optics and Optometry.
 University of Zaragoza
- Professor of Final Degree Project University Degree, Bachelor's Degree in Medicine

- Professor of Morphology. Development Biology University degree: Professional Master's Degree in Initiation to Research in Medicine. University of Zaragoza
- Doctor of Veterinary Medicine. Official Doctorate Program in Veterinary Sciences. University of Zaragoza
- Degree in Veterinary Medicine. University of Zaragoza





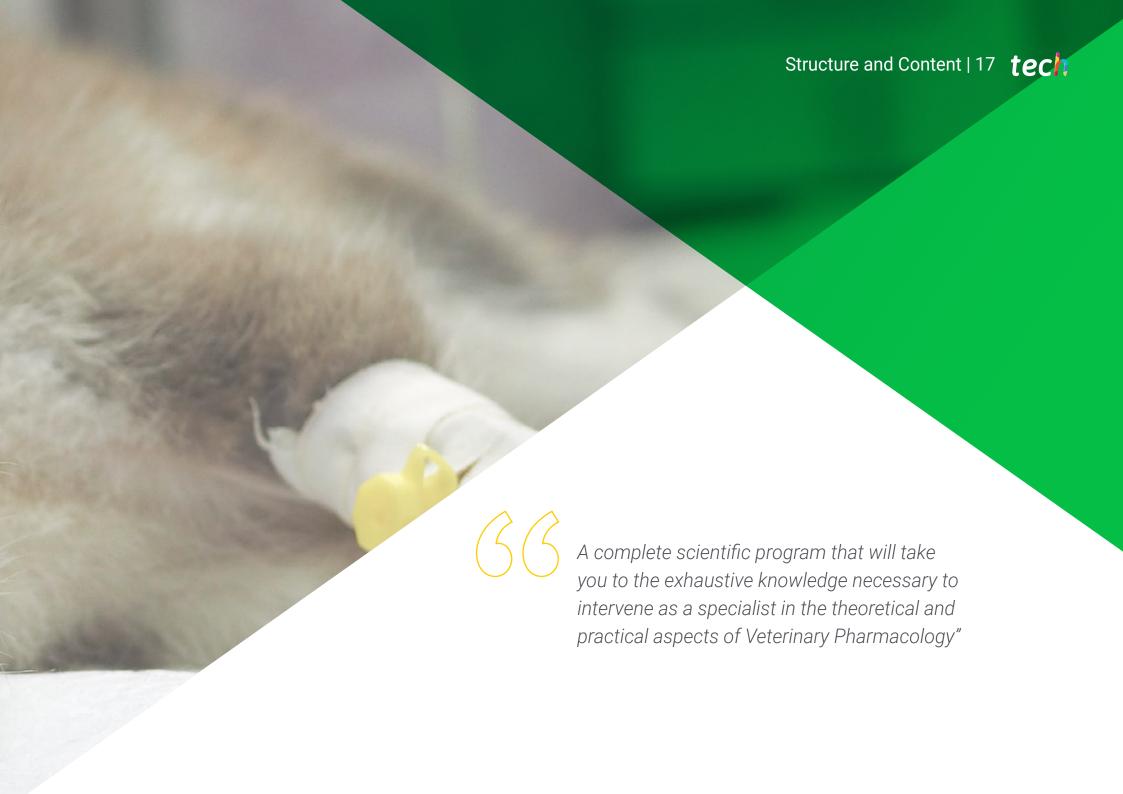
Dr. García Barrios, Alberto

- Interim Professor at the University of Zaragoza
- Casetas Veterinary Clinic
- Utebo Veterinary Clinic
- Nanoscale Biomagnetics R&D Researcher
- Veterinary Clinic Utebo. Clinical Veterinarian
- PhD in Veterinary Science
- Teacher with an interim contract. University of Zaragoza
- Degree in Veterinary Medicine
- Postgraduate Veterinary Oncology (Improve International). Homologation of the qualification to work with experimental animals



Take the opportunity and take the" step to get up to date on the latest developments in Exercise-Related Muscular and Metabolic Physiology for Pharmacists"

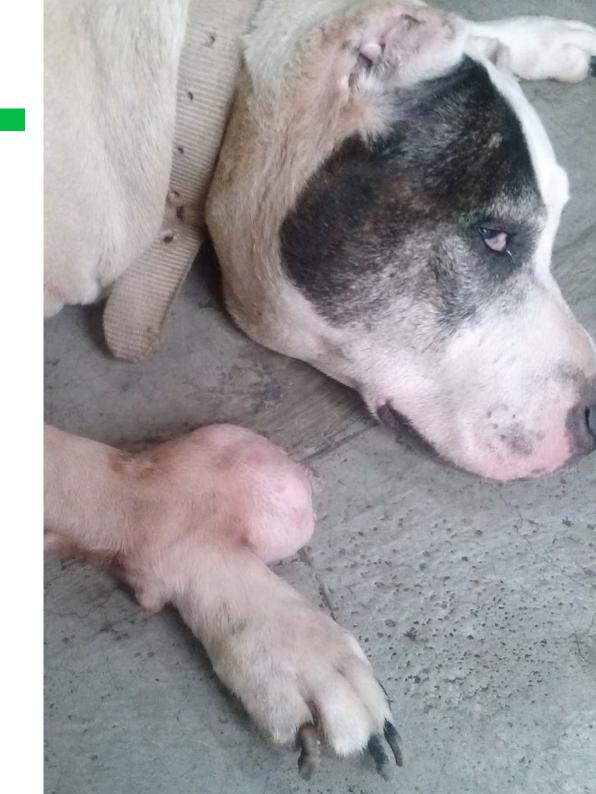




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Module 1. Antiseptics and Chemotherapeutics I

- 1.1. Introduction. Definition of Antiseptic and Chemotherapeutic. Antiseptics
 - 1.1.1. Introduction
 - 1.1.2. Antiseptic and Disinfectant Concept
 - 1.1.3. Factors Affecting the Potency of Antiseptics and Disinfectants
 - 1.1.4. Characteristics of an Ideal Antiseptic and Disinfectant
 - 1.1.5. Classification of Disinfectants and Antiseptics
 - 1.1.6. Main Antiseptics and Disinfectants for Clinical Use
 - 1.1.6.1. Alcohol
 - 1.1.6.2. Biguanides
 - 1.1.6.3. Halogenated Products
 - 1.1.6.4. Peroxygens
 - 1.1.6.5. Other Antiseptics
- 1.2. Introduction to Antimicrobial Therapy. Types of Antibiotics. Rational Use
 - 1.2.1. Introduction
 - 1.2.2. Historical Review of Antimicrobial Therapy
 - 1.2.3. Side Effects
 - 1.2.4. Principles of Antibiotherapy
 - 1.2.5. Resistance: Types and Mechanisms of Occurrence
 - 1.2.6. Waiting Times
 - 1.2.7. Requirements for an Antimicrobial
 - 1.2.8. Classification of Antimicrobials
 - 1.2.8.1. According to its Spectrum
 - 1.2.8.2. According to its Effect
 - 1.2.8.3. According to its Mechanism of Action
 - 1.2.8.4. According to its Chemical Group
 - 1.2.8.5. Depending on the Microorganism Affected
 - 1.2.9. Criteria to be Followed in the Selection of a Drug



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- 1.3. Antimicrobials that Act Against the Bacterial Wall. Antibiotics that Inhibit Protein Synthesis
 - 1.3.1. Antibiotics Acting Against the Bacterial Wall
 - 1.3.1.1. General Aspects
 - 1.3.1.2. Beta-Lactamics (b-lactamics)
 - 1.3.1.2.1. Penicillins
 - 1.3.1.2.2. Cephalosporins
 - 1.3.1.2.3. Vancomycin and Bacitracin
 - 1.3.2. Antibiotics that Inhibit Protein Synthesis
 - 1.3.2.1. Aminoglycosides
 - 1.3.2.2. Tetracyclines
 - 1.3.2.3. Chloramphenicol and Derivatives
 - 1.3.2.4. Macrolides and Lincosamides
 - 1.3.3. B-Lactamase Inhibitors
- 1.4. Antibiotics that Act on the Synthesis of Nucleic Acids. Antibiotics Acting on the Bacterial Membrane
 - 1.4.1. Fluroquinolones
 - 1.4.2. Nitrofurans
 - 143 Nitroimidazoes
 - 1.4.4. Sulfamides
 - 1.4.5. Polymyxins and Thyrotricins
- 1.5. Antifungal
 - 1.5.1. General Description of the Mycotic Structure
 - 1.5.2. Classification of Antifungal Agents by Chemical Structure
 - 1.5.3. Systemic Antifungals
 - 1.5.4. Topical Antifungals

1.6. Antivirals

- 1.6.1. Objective of Antiviral Chemotherapy
- 1.6.2. Groups of Antivirals According to their Origin, Chemistry, Pharmacological Action, Pharmacokinetics, Pharmacodynamics, Posology, Therapeutic Uses, Adverse Reactions, Contraindications, Interactions and Pharmaceutical Forms
 - 1.6.2.1. Inhibitors of RNA and DNA Synthesis
 - 1.6.2.2. Purine Analogs
 - 1.6.2.3. Pyrimidine Analogs
 - 1.6.2.4. Reverse Transcriptase Inhibitors
 - 1.6.2.5. Interferons.
- 1.7. Antiparasitics II
 - 1.7.1. Introduction to Antiparasitic Therapy
 - 1.7.2. Importance of Antiparasitic Drugs in Veterinary Medicine
 - 1.7.3. General Concepts: Antinematodic, Anticestodic, Antitrematodic, Antiprotozoal, Ectoparasiticide and Endectocide.
- .8. Antiparasitics for Internal or Endoparasitic Use
 - 1.8.1. Antinematodes
 - 1.8.2. Antistatics
 - 1.8.3. Antitrematodic
 - 1.8.4. Antiprotozoals
- 1.9. Antiparasitics for External or Ectoparasitic Use
 - 1.9.1. Introduction to External Parasites
 - 1.9.2. Antiparasitics II
- 1.10. Antiparasitics for Internal and External Use or Endectocides
 - 1.10.1. Introduction
 - 1.10.2. Macrocyclic Lactones
 - 1 10 3 Main Combinations of Endectocide Use

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Module 2. Chemotherapy II: Antineoplastic Drugs

- 2.1. Introduction to Antineoplastic Therapy
 - 2.1.1. Cancer in Veterinary Medicine: Pathophysiology and Etiology of Cancer
 - 2.1.2. Antineoplastic Treatment Approach: Drug Posology
 - 2.1.3. Administration of Chemotherapy Drugs
 - 2.1.3.1. Care in the Application of Chemotherapeutic Agents
 - 2.1.3.2. Standards and Instructions for Chemotherapy Application: Preparation During Preparation/Administration of Cytotoxic Drugs
- 2.2. Palliative Antineoplastic Pharmacology. Introduction to Special Antineoplastic Pharmacology
 - 2.2.1. Introduction to Palliative Antineoplastic Pharmacology: Oncologic Pain Control/ Assessment. Pharmacological Principles for Palliative Pain Management. Nutritional Management of the Oncology Patient
 - 2.2.2. Non-Steroidal Analgesics
 - 2.2.3. Opioids
 - 2.2.4. Others: nmda Antagonists, Bisphosphonates, Tricyclic Antidepressants, Anticonvulsants, Nutraceuticals, Cannabidiol
 - 2.2.5. Introduction to Special Antineoplastic Pharmacology. Main Antineoplastic Drug Families
- 2.3. Family I: Alkylating Agents
 - 2.3.1. Introduction
 - 2.3.2. Nitrogen Mustards: Cyclophosphamide, Chlorambucil and Melphalan
 - 2.3.3. Nitrosoureas: Lomustine/Procarbazine
 - 2.3.4. Others: Hydroxyurea
 - 2.3.5. Main Uses in Veterinary Medicine
- 2.4. Family II: Antimetabolites
 - 2.4.1. Introduction
 - 2.4.2. Folic Acid Analogs (antifolates): Methotrexate
 - 2.4.3. Purine Analogues: Azathioprine
 - 2.4.4. Pyrimidine Analogues: Cytosine Arabinoside, Gentabicin, 5-Fluorouracil
 - 2.4.5. Main Uses in Veterinary Medicine

- 2.5. Family III: Antibiotics
 - 2.5.1. Introduction
 - 2.5.2. Anthracycline-Derived Antibiotics (doxorubicin/other anthracyclines) and Non-Anthracycline-Derived Antibiotics (actinomycin-d, mitoxantrone, bleomycin)
 - 2.5.3. Main Uses in Veterinary Medicine
- 2.6. Family IV: Antineoplastics of Plant Origin
 - 2.6.1. Introduction
 - 2.6.2. Alkaloids: History/Antitumor Activity. Vinca Alkaloids
 - 2.6.3. Epipododiphyllotoxin-Derived Ligands
 - 2.6.4. Camptothecin Alkaloid Analogs
 - 2.6.5. Main Uses in Veterinary Medicine
- .7. Family V: Tyrosine Kinase Inhibitors
 - 2.7.1. Introduction
 - 2.7.2. Protein Kinases: Non-Receptor Tyrosine Kinase Proteins (NRTK; Receptor Tyrosine Kinase RTK)
 - 2.7.3. Toceranib
 - 2.7.4. Masitinib
 - 2.7.5. Main Uses in Veterinary Medicine
- 2.8. Platinum Derivatives
 - 2.8.1. Introduction
 - 2.8.2. Carboplatin
 - 2.8.3. Cisplatin
 - 2.8.4. Main Uses in Veterinary Medicine
- 2.9. Miscellaneous. Monoclonal Antibodies. Nanotherapy. L-asparaginase
 - 2.9.1. Introduction
 - 2.9.2. L-asparaginase
 - 2.9.3. Monoclonal Antibodies
 - 2.9.4. Tigylanol Toglate (stelfonta)
 - 2.9.5. Immunotherapy
 - 2.9.6. Metronomic Therapy



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- 2.10. Toxicity of Antineoplastic Drugs
 - 2.10.1. Introduction
 - 2.10.2. Hematological Toxicity
 - 2.10.3. Gastrointestinal Toxicity
 - 2.10.4. Cardiotoxicity
 - 2.10.5. Urinary Toxicity
 - 2.10.6. Specific Toxicities: Hepatic, Neurological, Cutaneous, Hypersensitivity, Breed/Species Associated.
 - 2.10.7. Pharmacological Interventions



It advances towards excellence with the help of the best professionals and teaching resources of the moment"



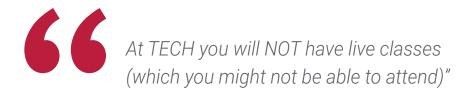


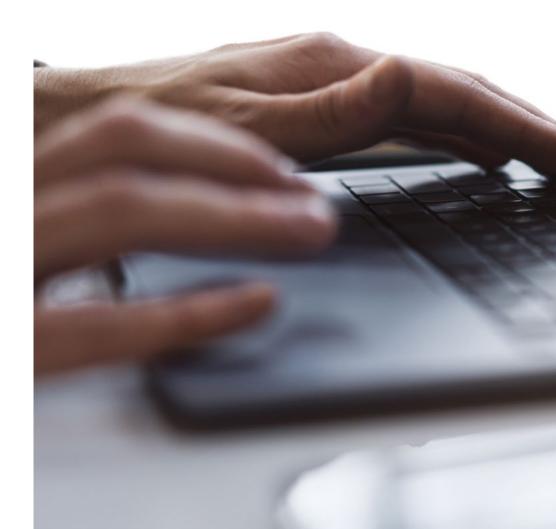
The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.







The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.



TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"

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Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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



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A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

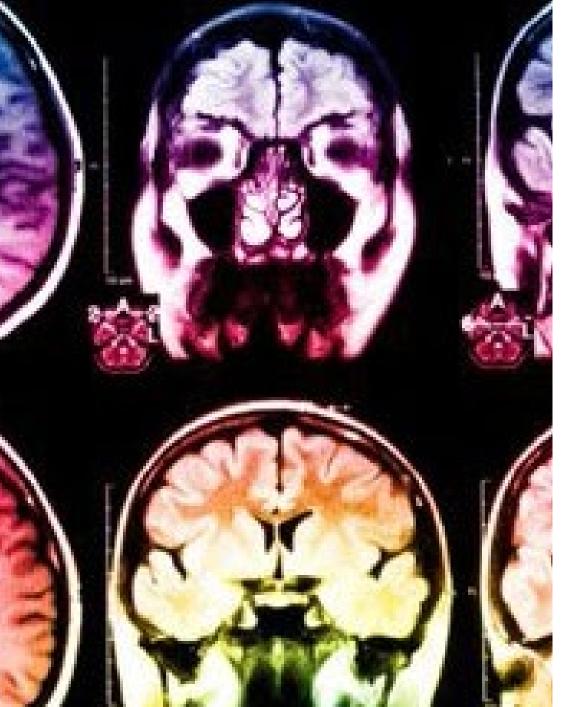
Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

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

- 1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
- 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.** Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



Study Methodology | 29 tech

The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

As such, the best educational materials, thoroughly prepared, will be available in this program:



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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



Practicing Skills and Abilities

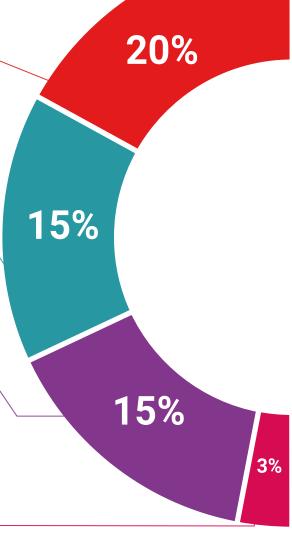
You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



Interactive Summaries

We present 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, international guides... In our virtual library you will have access to everything you need to complete your education.



Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.



Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.



Classes

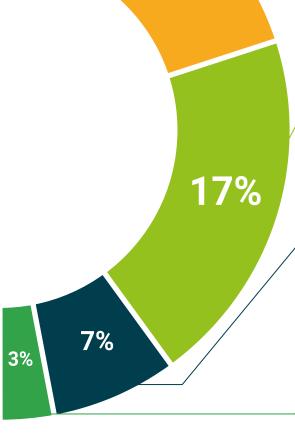
There is scientific evidence suggesting that observing third-party experts can be useful.



Learning from an expert strengthens knowledge and memory, and generates confidence for 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.







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This private qualification will allow you to obtain a **Postgraduate Certificate in Update on Veterinary Chemotherapy** 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** private qualification 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 Update on Veterinary Chemotherapy

Modality: online

Duration: 12 weeks

Accreditation: 12 ECTS



Postgraduate Certificate in Update on Veterinary Chemotherapy

This is a private qualification of 360 hours of duration equivalent to 12 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024



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

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Community technology global university

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