Postgraduate Certificate

Antimicrobial Resistance and Correct Use of Antibiotics

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Postgraduate Certificate

Antimicrobial Resistance and Correct Use of Antibiotics

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/pk/pharmacy/postgraduate-certificate/antimicrobial-resistance-correct-use-antibiotics**

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01

Introduction

Antimicrobial resistance (drug resistance) occurs when microorganisms, whether bacteria, viruses, fungi or parasites, undergo changes that render the drugs used to cure the infections they cause ineffective. Therefore, it is crucial that pharmacists, as drug researchers, update their knowledge in this area, in order to offer complementary drugs that can fight this type of organism. This TECH program will allow pharmacists to update their knowledge in this area through a highly rigorous scientific program. You will learn the latest techniques and developments in the field, from professionals with years of experience in the discipline. A unique opportunity to specialise in a highly demanded professional field.

As a pharmacist, you should update your knowledge in Antimicrobial Resistance and Correct Use of Antibiotics. That is what you will be able to achieve with this TECH Diploma"

Infectious diseases continue to be the main cause of death and work impairment (reduction of productive life period) in the world. In 2016, of the total 56.4 million deaths worldwide, 33% were due to infectious diseases, 30% to cardiovascular diseases and 10% to cancer. The fight against disease has two simultaneous fronts: infectious diseases and chronic non-communicable diseases.

The fact that these factors interact with each other has conditioned us to not consider any part of the planet as isolated from the rest, and to look upon the appearance, reappearance or dissemination of imported or apparently eradicated infectious diseases in our environment as possibilities.

The complex epidemiological situation that the world has witnessed so far this century, has been exemplified by the deliberate release of Bacillus anthracis spores as a weapon of bio-terrorism to cause pulmonary anthrax in victims who inhaled them, the emergence of West Nile virus as a pathogen in the United States, the epidemic of Severe Acute Respiratory Syndrome (SARS), the zoonotic spread of monkeypox in the United States, the threat of pandemic influenza, the Ebola epidemic in Africa, the emergence of yellow fever cases in Angola, coupled with the re-emergence of dengue and cholera; the emergence of new arboviruses in the Americas region, such as Chikingunya and more recently Zika, together with morbidity from other endemic infectious diseases such as HIV/AIDS, leptospirosis, tuberculosis, community-acquired pneumonia and the increase in antibiotic resistance with the development of multidrug-resistant bacteria; all of which highlight the unprecedented need to improve the training and development process with human capital in order to increase the competence and performance levels of pharmaceutical personnel required to meet the challenges involved in controlling and dealing with biological, hospital and public health emergencies that will guarantee the quality and safety of health care for the population in any part of the world.

This **Postgraduate Certificate in Antimicrobial Resistance and Correct Use of Antibiotics** contains the most complete and up-to-date program on the market. Its most outstanding features are:

- Clinical cases presented by experts in Antimicrobial Resistance and Correct Use of Antibiotics
- Graphic, schematic, and practical contents created in order to provide scientific and practical information on those disciplines that are essential for professional practice.
- Latest developments in Antimicrobial Resistance and Correct Use of Antibiotics.
- Practical exercises where self-assessment can be used to improve learning.
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course.
- 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

Improve your pharmaceutical skills through this comprehensive program that will help you understand how antimicrobial resistance works"

This Postgraduate Certificate is the best investment you can make in your education for two reasons: you will earn a Postgraduate Certificate from the largest digital university in the world, TECH, and you will acquire the best and most up-to-date training in in Antimicrobial Resistance and Correct Use of Antibiotics"

Its teaching staff is made up of prestigious and renowned professionals from pharmaceutical and medical disciplines who have long had careers in health care, teaching and research, and have worked in many countries on several continents developing professional and teaching experience that they deliver in an extraordinary way in this course.

The methodological design of this program, carried out by a multidisciplinary team of e-Learning experts, integrates the latest advances in educational technology to produce a variety of educational multimedia tools that are based primarily on the problem-based learning method, and will allow professionals to address real problems in their daily clinical practice by helping them acquire further knowledge and develop more skills.

Each of the contents generated, as well as course videos, self-evaluations, clinical cases and exams, have been thoroughly reviewed, updated, and integrated by the teaching staff and team of experts that make up the faculty, in order to facilitate the learning process with a step-by-step approach and to help students reach course objectives.

This fully up-to-date program is the best of its kind in the educational landscape for viral infections, from a pharmaceutical perspective.

Don't miss this opportunity to get up to date on the latest advances in antimicrobial resistance treatments and incorporate them into your daily pharmaceutical practice.

02

Objectives

The fundamental purpose of this teaching program is to provide professional training and preparation for pharmacists, so that they may acquire in-depth theoretical mastery of the latest and most current scientific knowledge in the area of clinical infectious diseases, and develop the skills that will allow them to approach the complex health-infectious disease process with individuals and communities more easily and more safely.

This program will provide you with a sense of confidence in your pharmaceutical practice, which will help you grow personally and professionally"

General Objectives

- Update or expand your knowledge and develop your skills for daily clinical practice in healthcare, teaching or research roles in the field of infectious diseases in order to provide individual or group population care that allows for the improvement of health indicators
- Improve pharmaceutical and overall health care of patients with infectious diseases based on integral care, the application of the epidemiological clinical method and the correct use of antimicrobials, as suggested by the latest scientific evidence

Specific Objectives

- To raise the crucial issue of super-resistant microbes and their relationship to the use of antimicrobials
- Highlighting the development of vaccines for new diseases

Improve patient care by taking advantage of the knowledge offered in this Postgraduate Certificate in Antimicrobial Resistance and Correct Use of Mycotic Antibiotics"

03

Course Management

The teaching program brings together renowned and recognized pharmaceutical experts with numerous publications, extensive teaching experience and professional experience in countries where many of the diseases studied have a high morbidity-mortality rate. The teaching staff is made up of a multidisciplinary team from various medical specialities, such as internal medicine, paediatrics, general surgery, gynaecology and obstetrics, microbiology, pathological anatomy, pharmacology, among others.

Learn from leading professionals the latest advances in infectious diseases and antibiotic management"

Management

Dr. Díaz Pollán, Beatriz

- Faculty Area Specialist La Paz University Hospital. Since 2013
- Official Doctoral Programme in Clinical Medicine. Rey Juan Carlos University. 2014
- Degree in Medicine and Surgery. Autonomous University of Madrid. 1995
- Masters in Infectious Diseases and Antimicrobial Treatment. CEU - Cardenal Herrera University. 2018
- University Expert in Community and Nosocomial Infections. CEU - Cardenal Herrera University. 2018
- University Expert in Chronic Infectious Diseases and Imported Infections. CEU - Cardenal Herrera University. 2018
- University Expert in Microbiological Diagnosis, Antimicrobial Treatment and Research in Infectious Pathology. CEU - Cardenal Herrera University. 2018
- Faculty Area Specialist San Carlos Clinical Hospital 2001-2013
- Resident doctor. San Carlos Clinical Hospital 1996-2001

Professors

Dr. Rico, Alicia

- Specialist in the Microbiology and Parasitology Department at La Paz University Hospital Madrid. 2020
- Degree in Medicine from the Complutense University Madrid. 1998
- Doctorate Courses at the Complutense University of Madrid
- Assistant and co-founder of the Infectious Diseases and Clinical Microbiology Unit. La Paz University Hospital. Madrid. Since 2007
- PROA team member. Since 2010
- Clinical teaching collaborator. Department of Medicine of the UAM. Since 2015
- Member of the Infections and Policy Committee. La Paz Hopistal
- Member of SEIMC (the Spanish Society of Infectious Diseases and Clinical Microbiology) Since 2000
- Participation in several research projects

Dr. Loeches Yagüe, María Belén

- Specialist in the area of Infectious Diseases at La Paz General University Hospital, Madrid
- Doctor of Medicine. Autonomous University of Madrid
- Degree in Medicine. Complutense University of Madrid
- Master in Theoretical and Practical Learning in Infectious Diseases. Complutense University of Madrid. 2009
- Specialised Training in Microbiology and Infectious Diseases. Gregorio Marañón General University Hospital. 2005-2009
- Professor of Infectious Diseases at the Infanta Sofía University Hospital in Madrid European University of Madrid. 2013-2015

Dr. Mora Rillo, Marta

- Specialist in the area of Infectious Diseases at La Paz University Hospital. Since 2008
- Clinical Teaching Collaborator in the Department of Medicine. Autonomous University of Madrid. Since 2017
- Doctor of Medicine. Autonomous University of Madrid. 2013
- Degree in Medicine and Surgery. University of Zaragoza. 1999
- Master's Degree in Infectious Diseases in Intensive Care. University of Valencia. 2018
- Online Masters in Infectious Diseases and Antimicrobial Treatment CEU Cardenal Herrera University. 2017
- Master's Degree in Tropical Medicine and International Health. Autonomous University of Madrid. 2014
- Expert in Emerging and High-Risk Virus Pathology. Autonomous University of Madrid. 2019
- Expert in Tropical Medicine. Autonomous University of Madrid

Dr. Arribas López, José Ramón

- Head of the Infectious Diseases and Clinical Microbiology Unit. La Paz University Hospital Since 2015

- Doctor of Medicine. Autonomous University of Madrid. 1993
- Degree in Medicine and Surgery. Complutense University of Madrid. 1985
- Coordinator of the High-Level Isolation Unit. La Paz University Hospital– Carlos III
- Member Interministerial Committee for the management of the Ebola crisis
- Head of the AIDS and Infectious Diseases research group at IdiPAZ

Dr. Ramos, Juan Carlos

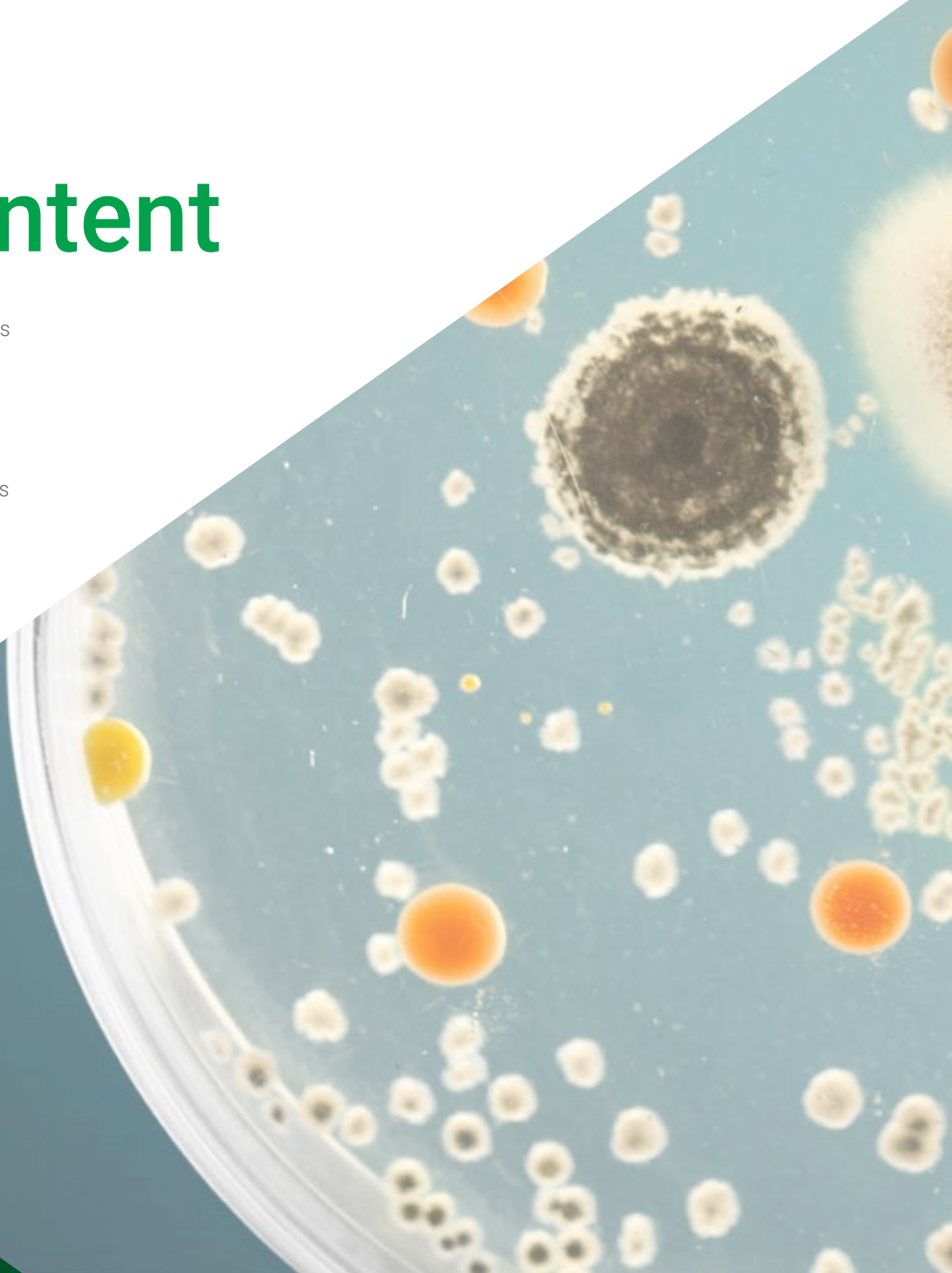
- Doctor at La Paz University Hospital. Madrid. Since 2013
- Official Doctoral Programme in Medicine. University of Alcalá. 2006
- Degree in Medicine and Surgery. Complutense University of Madrid. 1994
- Master's Degree in Infectious Diseases in Intensive Care. Fundación Universidad-Empresa Valencia. 2019
- Author of Several Scientific Publications

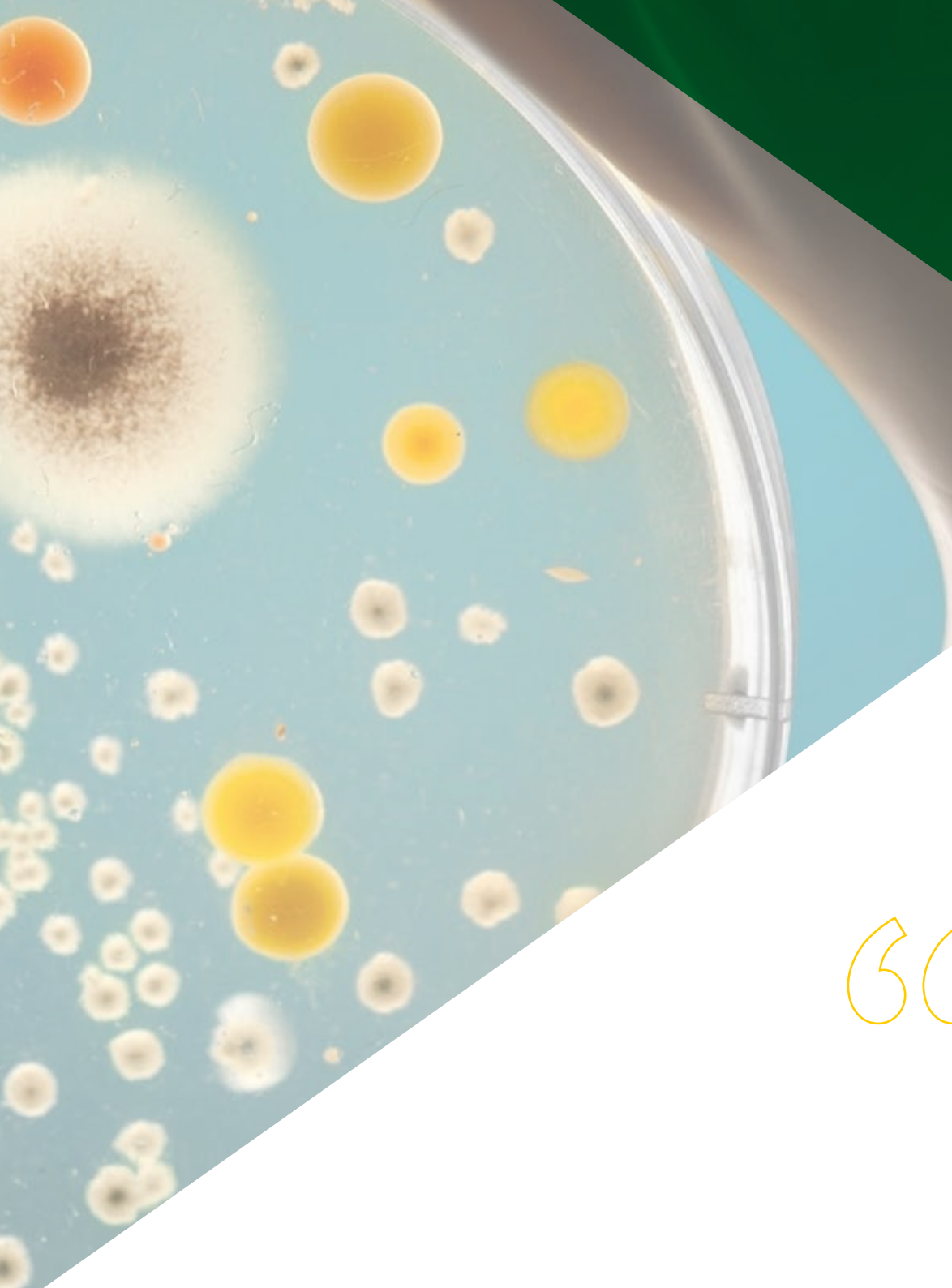
With this Postgraduate Certificate, you have the opportunity to update your knowledge in a convenient way and without sacrificing scientific accuracy, which will allow you to incorporate the latest advances in approaches to infectious pathologies in your daily pharmaceutical practice"

04

Structure and Content

The teaching program has been designed by a group of professors and professionals from different medical specialties with extensive medical, research and teaching experience in several countries in Africa, Central and South America, and interested integrating the latest and most current scientific knowledge of clinical infectiology and antimicrobial therapeutics, in order to ensure that the training and professional development offered helps those who care for patients or populations with infectious diseases improve in their daily practice.





This Postgraduate Certificate in Antimicrobial Resistance and Correct Use of Antibiotics contains the most complete and up-to-date program on the market"

Module 1. Antimicrobial Resistance

1.1. Epidemiology. From Molecular to Socioeconomic
- 1.1.1. Analysis of Molecular Evolution, Genetics, Clinical Manifestation, Epidemiology and Socioeconomics of the Resistance to Antibiotics
- 1.1.2. Mortality Due to Super Bacteria
- 1.1.3. Most Lethal Super Bacteria

1.2. Mechanisms of Antimicrobial Resistance
- 1.2.1. Genetic Mechanisms
- 1.2.2. Acquired Mechanisms

1.3. MRSA and GISA
- 1.3.1. Epidemiology
- 1.3.2. Resistance Mechanisms
- 1.3.3. Alternative Treatments.

1.4. Resistant Enterobacteria
- 1.4.1. Epidemiology
- 1.4.2. Resistance Mechanisms
- 1.4.3. Alternative Treatments.

1.5. Resistant Pneumococcus
- 1.5.1. Epidemiology
- 1.5.2. Resistance Mechanisms
- 1.5.3. Alternative Treatments.

1.6. Viral Resistance
- 1.6.1. Epidemiology
- 1.6.2. Resistance Mechanisms
- 1.6.3. Alternative Treatments.

1.7. Mycotic and Parasitic Resistance
- 1.7.1. Epidemiology
- 1.7.2. Resistance Mechanisms
- 1.7.3. Alternative Treatments.

1.8. Worldwide Program for the Control of Antimicrobial Resistance and Research into New Antibiotics
- 1.8.1. Objectives and Action of the Worldwide Program for the Control of Antimicrobial Resistance
- 1.8.2. Research into New Antibiotics for Multiresistant Germs
- 1.8.3. Emergence of Other Forms of Treatment for Infection Control

Module 2. The Correct Use of Antimicrobials

2.1. Basic Principles in the Selection and Use of Antimicrobials
- 2.1.1. Elements of an Antimicrobial
- 2.1.2. Elements of a Germ
- 2.1.3. Elements of the Host

2.2. Use of Antimicrobials in Special Situations in the Host
- 2.2.1. Use in Kidney Failure
- 2.2.2. Use in Pregnancy
- 2.2.3. Use in Liver Failure

2.3. The Role of Policies and Programs for Rational Use of Antibiotics; their Impact on Antimicrobial Resistance and on the Cost of Medical Care
- 2.3.1. Situation of Programs and Policies for the Rational Use of Antibiotics
- 2.3.2. Impact of Programs and Policies in the Use of Antibiotics
- 2.3.3. Use of Clinical Practice Guides

2.4. Pharmotherapeutic Committees as Tools for the Control and Evaluation of the Use of Antibiotics
- 2.4.1. Structure
- 2.4.2. Objectives
- 2.4.3. Functions
- 2.4.4. Impact Results

2.5. Antibiotic Prophylaxis in Surgery
- 2.5.1. Classification of Surgical Interventions
- 2.5.2. Uses of Antibiotic Prophylaxis According to the Type of Surgical Intervention
- 2.5.3. Most Commonly Used Schemes of Antibiotic Prophylaxis in Surgery

2.6. Reasoned Therapeutics in the Use of Antibiotics
- 2.6.1. Stages of Reasoned Therapeutics
- 2.6.2. Importance of Reasoned Therapeutics

2.7. The Worldwide Experience in the Control of the Use of Antibiotics
- 2.7.1. Main Worldwide Experiences in the Control of the Use of Antibiotics

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, students will be confronted with multiple simulated clinical cases based on real patients, in which they will have to investigate, establish hypotheses and ultimately, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Pharmacists learn better, more quickly 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, attempting to recreate the actual conditions in a pharmacist'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:

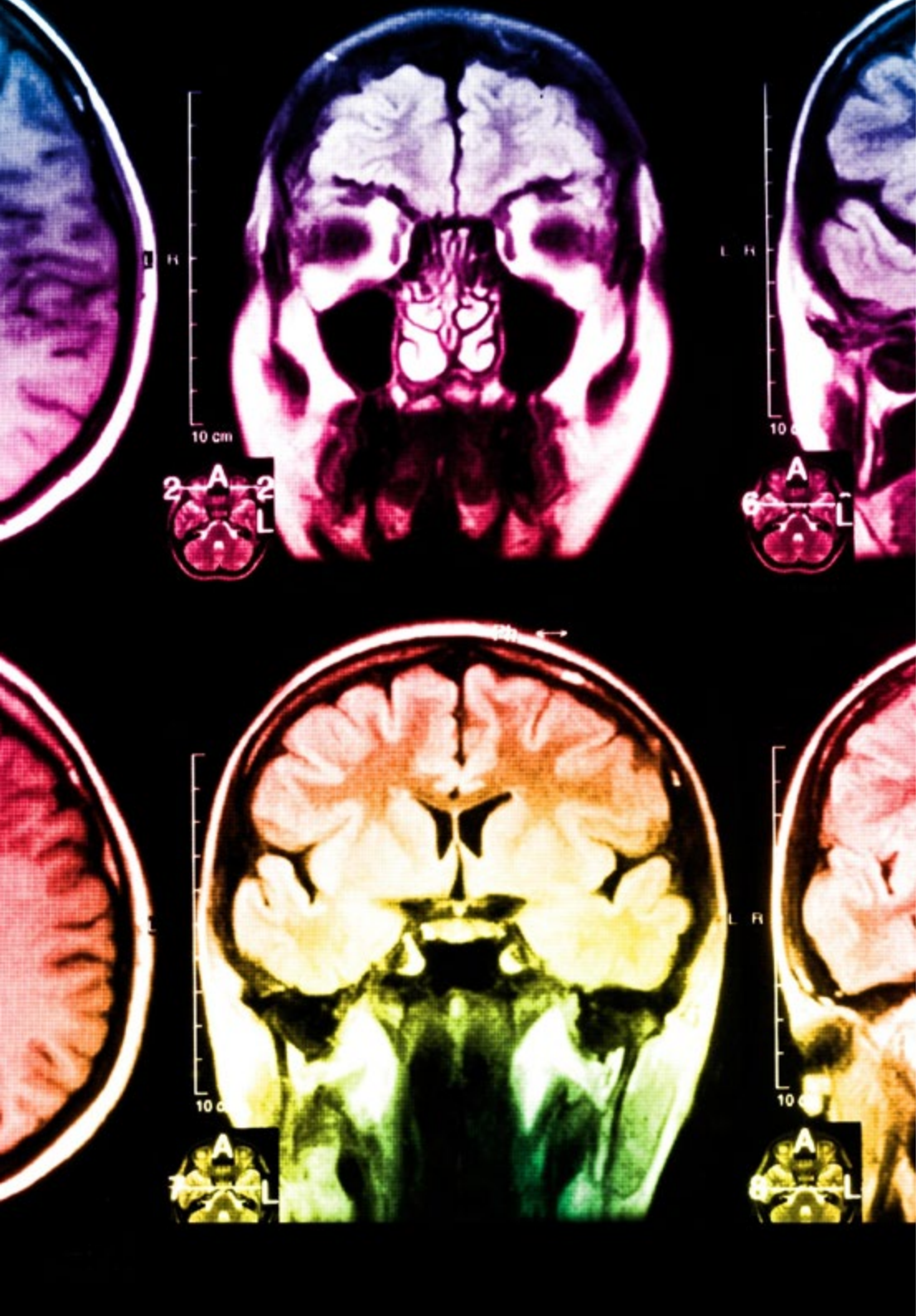
1. Pharmacists who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts 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.

Relearning Methodology

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

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.

Pharmacists will learn through real cases and by solving 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 115,000 pharmacists have been trained with unprecedented success in all clinical specialties, regardless of the surgical load. This pedagogical methodology is developed in a highly demanding environment, with a university student body with a high socioeconomic 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 specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to 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 created specifically for the course by specialist pharmacists who will be teaching the course, so that the didactic development is highly specific and accurate.

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.

Video Techniques and Procedures

TECH introduces students to the latest techniques, to the latest educational advances, to the forefront of current pharmaceutical care procedures. All of this, first hand, and explained and detailed with precision to contribute to assimilation and a better understanding. And best of all, you can watch them as many times as you want.

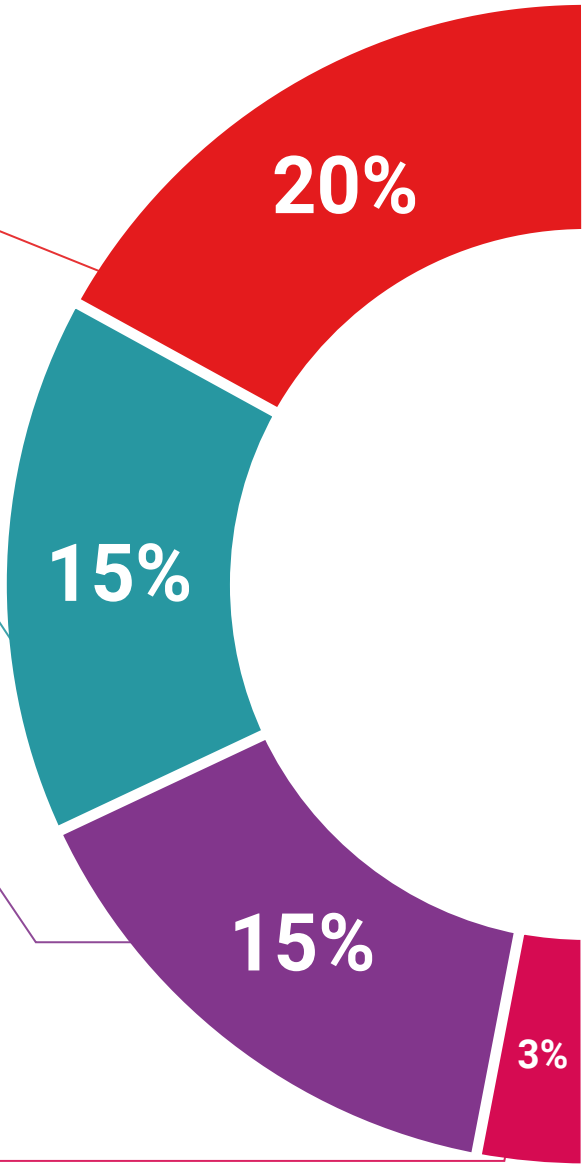
Interactive Summaries

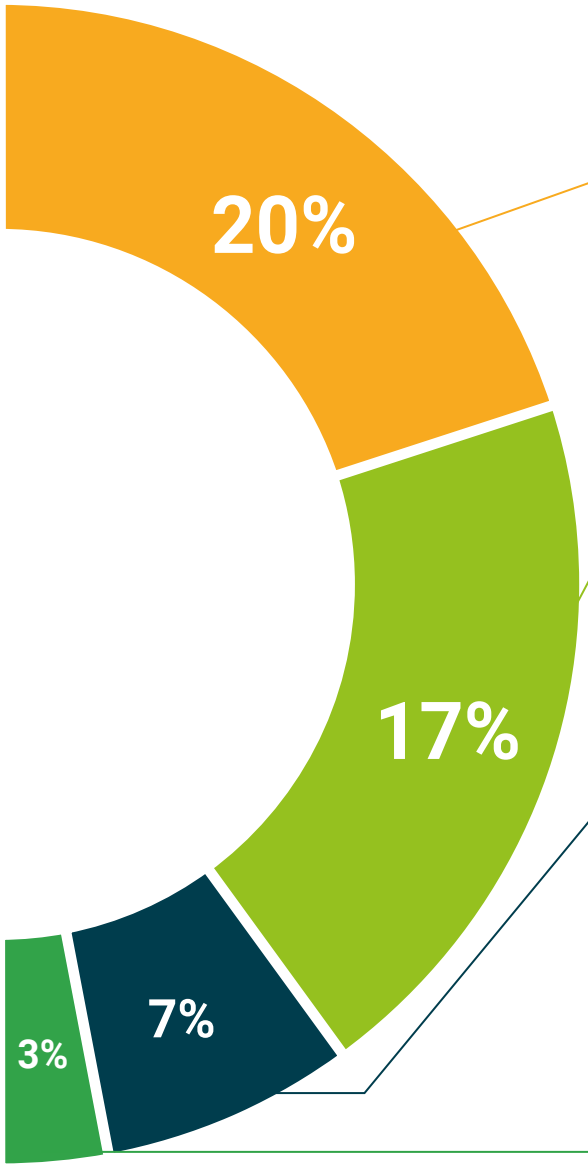
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

Additional Reading

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





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through 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 on the usefulness of learning by observing experts. The system known as 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 Antibiotics Antimicrobial Resistance and Correct Use 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 Antimicrobial Resistance and Correct Use of Antibiotics** 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 certificate 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 Antimicrobial Resistance and Correct Use of Antibiotics**

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

CERTIFICATE

to

Mr./Ms. _____ with identification number _____.

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Antimicrobial Resistance and Correct Use of Antibiotics

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 certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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Postgraduate Certificate

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