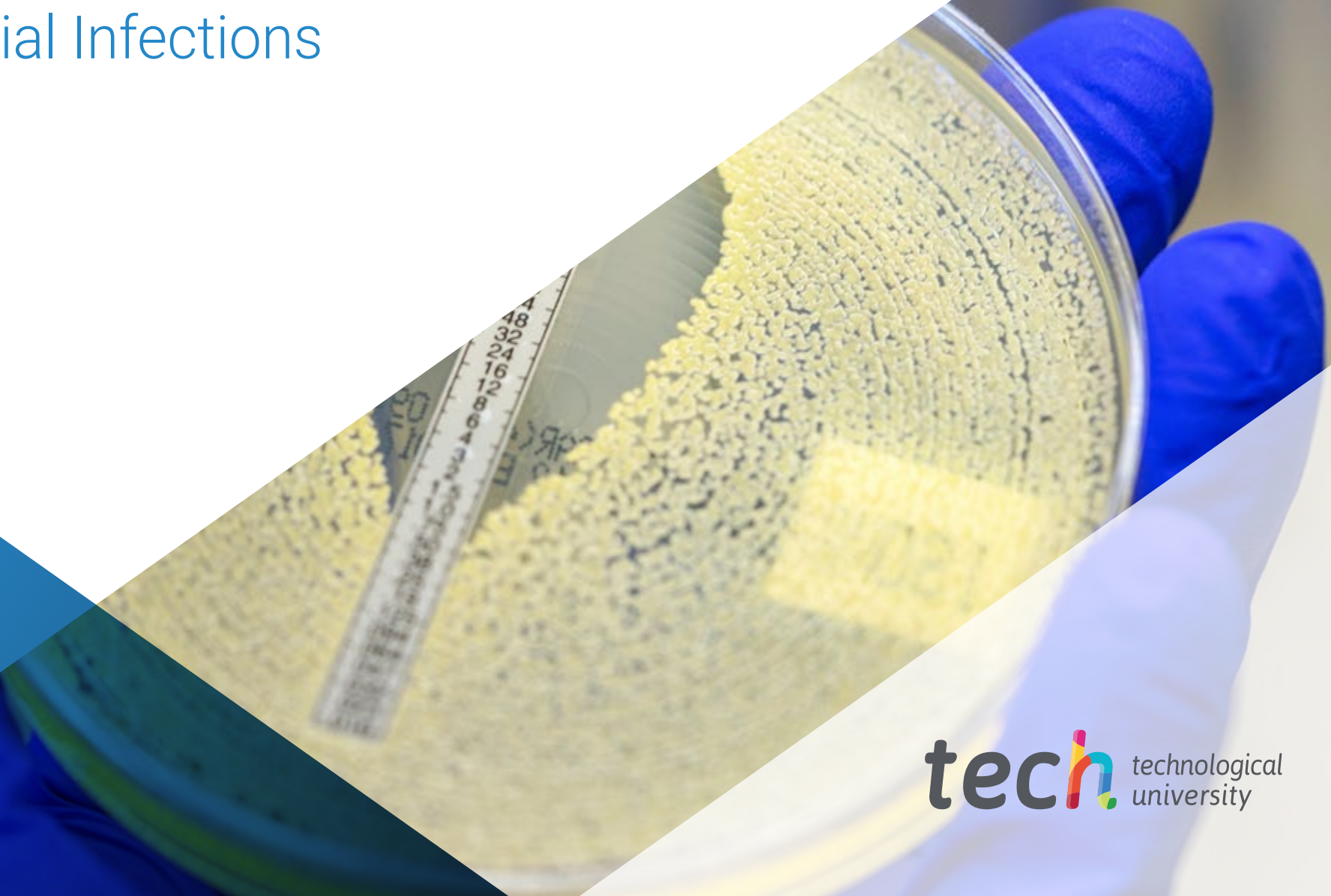


Postgraduate Diploma

Antibiotics in the Treatment of Bacterial Infections





Postgraduate Diploma Antibiotics in the Treatment of Bacterial Infections

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

Website: www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-antibiotics-treatment-bacterial-infections

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01

Introduction

Antibiotics are the most widely used drugs worldwide to fight infections caused by bacteria. However, their misuse has caused this type of microorganisms to become resistant to certain drugs. This makes it essential for specialists in this area to be aware of the latest advances in this field in order to find the best way to combat them. This academic program aims to provide professionals with the most up-to-date training.





“

This Postgraduate Diploma contains the most complete and up-to-date educational program on the market"

Within the realm of bacteria, there are some that have managed to surpass the potency of certain antibiotics and are more difficult to control. Thus, the World Health Organization (WHO) cites Escherichia coli, Klebsiella pneumoniae, Staphylococcus aureus and Streptococcus pneumoniae, followed by Salmonella spp, as the most resistant. To tackle these and other diseases, research is needed to develop new and more potent drugs.

According to the latest WHO data, antibiotic resistance is now one of the greatest threats to global health, food security and development. This can affect anyone, regardless of the place or country in which they live. In fact, it is estimated that more than 700,000 people die each year from antibiotic-resistant infections, a figure that is expected to rise to millions of deaths by 2050.

This program is designed to facilitate the professional's update in bacterial infectious diseases in order to improve the antibiotic therapy approach to their patients, through the latest educational technology, 100% online. Designed for practicing professionals who cannot leave their healthcare activity to get up to date, the access to the contents is agile and simple to facilitate learning and optimize the effort.

Antibiotic resistance also generates other types of problems, such as economic ones. Since their misuse can mean prolonged treatment and thus longer hospital stays, leading to higher medical costs.

In this regard, WHO appeals for an urgent change in the way antibiotics are prescribed and taken. The most important thing, however, is to change people's behavior, since, even if new, more potent drugs are created, their misuse will again lead to bacterial resistance.

In this course, the professional will learn about the latest knowledge in the field of antibiotics, with emphasis on new advances and drugs that will make them perform their work more effectively.

This **Antibiotics in the Treatment of Bacterial Infections** contains the most complete and up-to-date scientific program on the market. The most important features of the program include:

- ♦ The development of more than 75 case studies presented by experts in Antibiotics in the treatment of bacterial infections. Its graphic, schematic and eminently practical contents provide scientific and practical information on those disciplines that are essential for professional practice.
- ♦ The latest news on antibiotics in Antibiotics to Treat Bacterial Infections
- ♦ The content of practical exercises where the self-evaluation process can be carried out to improve learning.
- ♦ Special emphasis on innovative methodologies in Antibiotics in the treatment of bacterial infections.
- ♦ 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.

“*Antibiotic resistance is one of the greatest threats to global health today and this Postgraduate Diploma will help you improve your knowledge of it*”

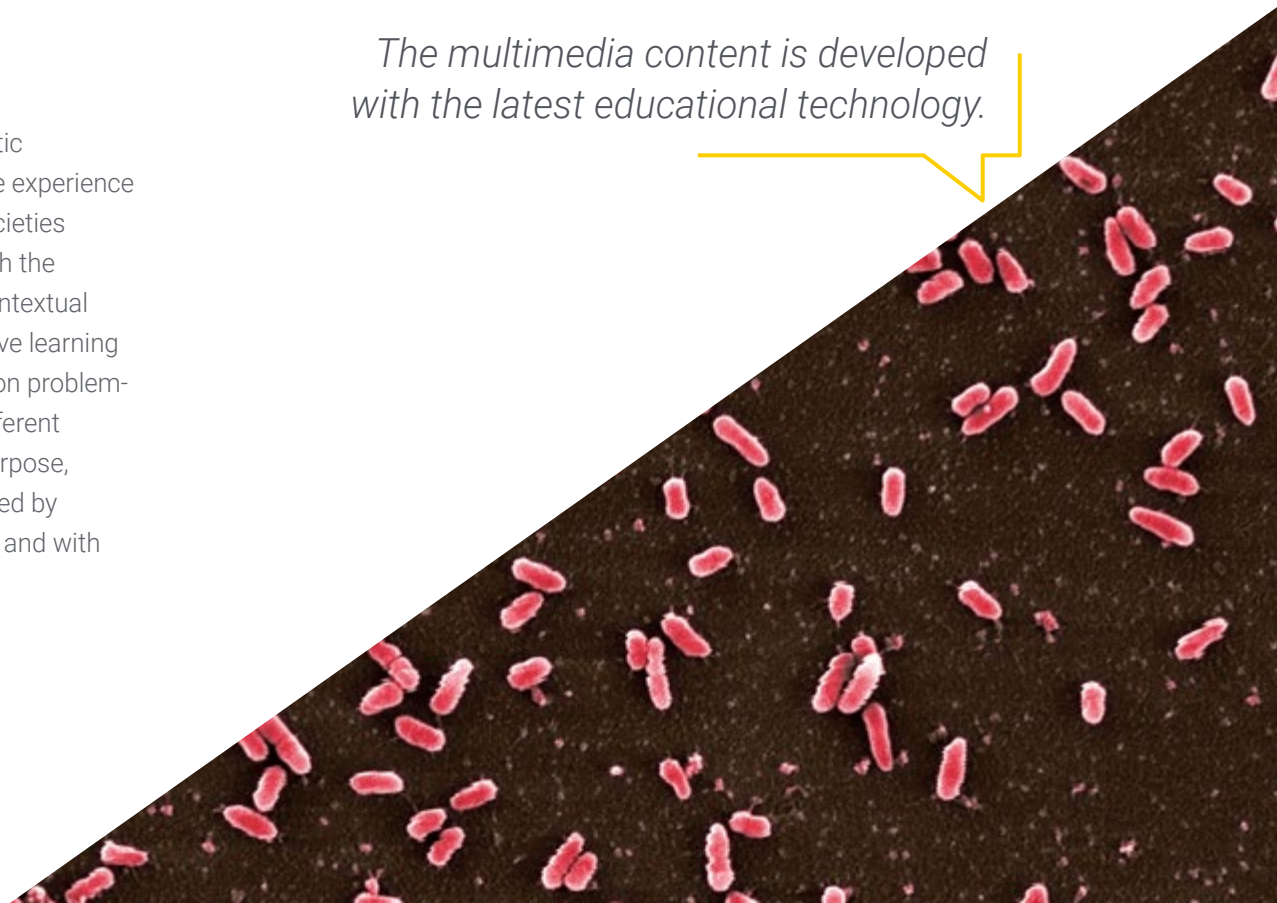
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The contents of this Postgraduate Diploma have been thoroughly revised and updated to facilitate the learning process in order to achieve the objectives of the teaching program"

It includes in its teaching staff professionals belonging to the field of antibiotic treatment for bacterial infections, who pour into this educational itinerary the experience of their work, in addition to recognized specialists belonging to reference societies and prestigious universities. Thanks to its multimedia content developed with the latest educational technology, it will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to train in real situations. The design of this program is based on problem-based learning, by means of which the professional must try to solve the different professional practice situations that arise throughout the course. For this purpose, the professional will be assisted by a novel interactive video system developed by recognized experts in the field of antibiotic treatment for bacterial infections and with great experience.

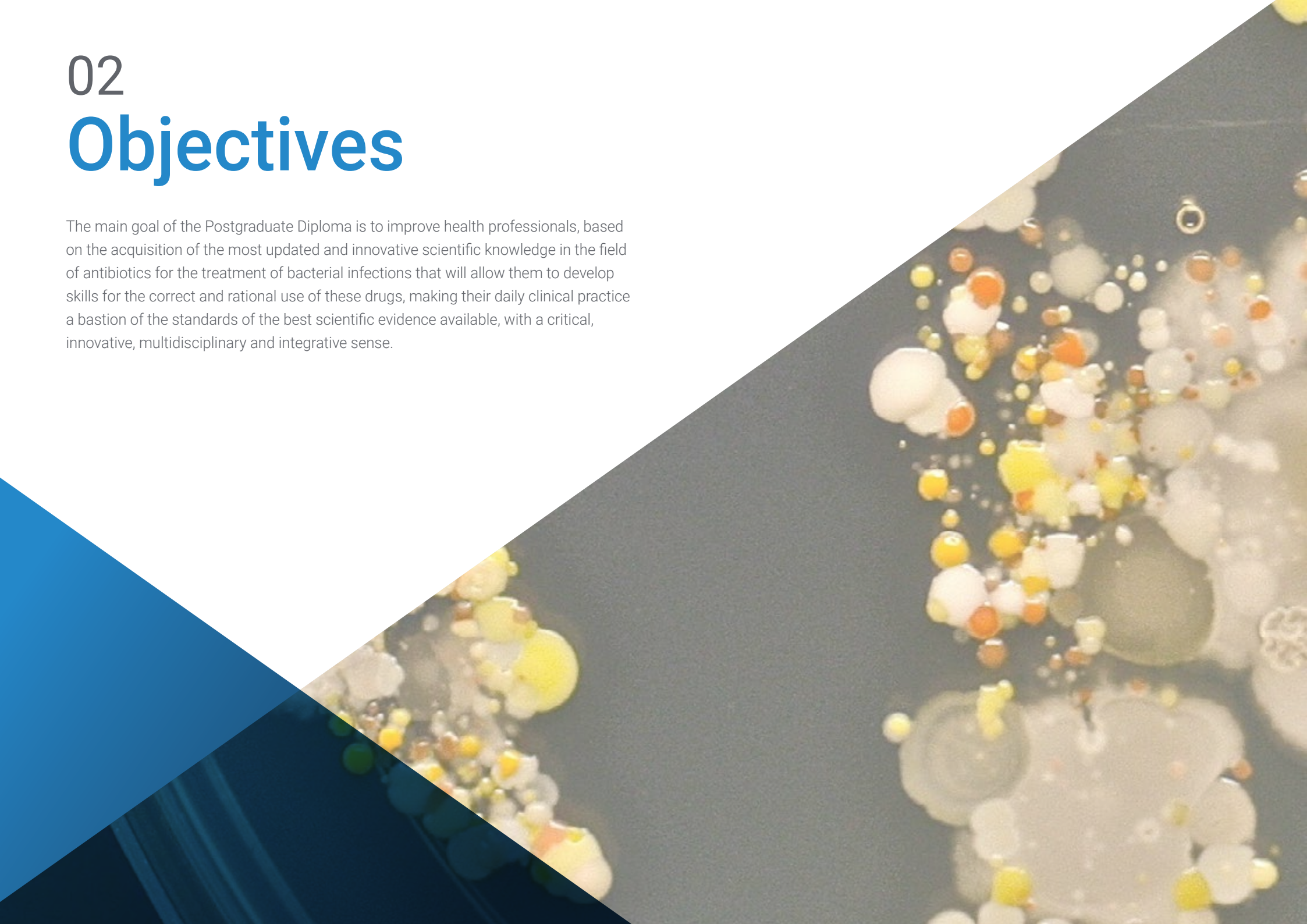
Its teaching staff includes renowned specialists from prestigious universities.

The multimedia content is developed with the latest educational technology.



02 Objectives

The main goal of the Postgraduate Diploma is to improve health professionals, based on the acquisition of the most updated and innovative scientific knowledge in the field of antibiotics for the treatment of bacterial infections that will allow them to develop skills for the correct and rational use of these drugs, making their daily clinical practice a bastion of the standards of the best scientific evidence available, with a critical, innovative, multidisciplinary and integrative sense.



“

This Postgraduate Diploma contains the most complete and up-to-date educational program on the market"



General Objective

- To guarantee the professional improvement, through the actuality, novelty and depth of the best scientific evidence on antibiotics in the treatment of bacterial infections for the correct use of these drugs and the adequate treatment of infectious diseases with a multidisciplinary and integrative approach that facilitates the control of these pathologies.





Specific Objectives

- Provide students with advanced, in-depth, up-to-date, and multidisciplinary information that allows them to comprehensively approach the health-infectious disease process, the use of antibiotics, and antibiotic resistance.
- Explain the complex interrelationships between the host, the microorganism, and the antibiotic to be used.
- Address the important role of microbiology and the diagnosis and control of infectious diseases.
- Address the most important elements among the resistance mechanisms of superbugs and other germs in a general sense.
- Describe the most important elements of the absorption, transportation, distribution, metabolism, and excretion of antibiotics.
- Justify the importance of controlling the use of antimicrobials as a means of reducing antibiotic resistance.
- Emphasize the role of immunity and new alternatives for the treatment of infections.
- Explain the production process of new antibiotics.
- Delve into the treatment of the most significant infectious diseases with the latest advances in scientific medical knowledge.
- Emphasize the development of future antibiotics and other therapeutic modalities for infectious diseases.



Take the opportunity and take the step to get up to date on the latest developments in Antibiotics in the Treatment of Bacterial Infections"

03

Course Management

The teaching program includes the participation of prestigious and renowned medical specialists with numerous publications, a long teaching career and extensive professional experience in many countries. Therefore, our teaching staff is characterized by its multidisciplinary skills, acquired through the practice of medical specialties such as internal medicine, pediatrics, general surgery, gynecology and obstetrics, microbiology, pathological anatomy, pharmacology, among others. Ultimately, the student is faced with an elite faculty, selected by TECH with the objective of making him/her a high-level professional.





“

Learn from leading professionals the latest advances in the treatment of bacterial infections"

Management



Dr. Quintero Casanova, Jesús

- Degree in Medicine and Surgery from the Medical University of Havana. Cuba.
- Specialist in Internal Medicine. "Héroes del Baire" Hospital.
- Professional Master's Degree in Tropical Diseases and Clinical Infectious Diseases from the Pedro Kuori Institute, Havana. Cuba.
- Head of the Department of Infectious Diseases of the Héroes del Baire Hospital.
- Member of the Cuban Society of Internal Medicine.
- Member of the Cuban Society of Teachers.
- Medical specialist in Africa (Chad) and Venezuela in (2009, 2013-15).
- Professor on the Medicine Degree and Internal Medicine Specialty at the Faculty of Medical Sciences of Isla de la Juventud.
- Professor in the Master's Degree in Infectious Diseases Professional Master's Degree at the Faculty of Medical Sciences of Isla de la Juventud.
- Member of state examining boards for the medicine degree and internal medicine.
- National Research Award in Cuba, 2002.
- Medical Science Teaching Award. Cuba.

Professors

Dr. Valle Vargas, Mariano

- ♦ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ♦ Specialist in Internal Medicine. "Héroes del Baire" Hospital.
- ♦ Master's Degree in Health Biostatistics.
- ♦ Diploma in Epidemiology.
- ♦ Head of the Internal Medicine Department of the Héroes del Baire Hospital.
- ♦ Member of the Cuban Society of Internal Medicine.
- ♦ Member of the Cuban Society of Teachers.
- ♦ Medical specialist in Venezuela in 2009, 2007-10.
- ♦ Professor on the Medicine Degree and Internal Medicine Specialty at the Faculty of Medical Sciences of Isla de la Juventud.
- ♦ Professor of the Professional Master's Degree in Infectious Diseases in the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Member of state examining boards for the medicine degree and internal medicine.
- ♦ Member of tribunals for national scientific events. Cuba
- ♦ Medical Science Teaching Award. Cuba.

Dr. Dranguet Bouly, José Ismael

- ♦ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ♦ Specialist in Internal Medicine and Intensive Therapy. "Héroes del Baire" Hospital.
- ♦ Master's Degree in Infectious Diseases from the Pedro Kouri Institute of Cuba.
- ♦ Head of the Internal Medicine Department of the Héroes del Baire Hospital.
- ♦ Member of the Cuban Society of Internal medicine and the Cuban Society of Intensive Therapy.
- ♦ Member of the Cuban Society of Teachers.
- ♦ Medical specialist in Mozambique, 2008-10.
- ♦ Professor on the Medicine Degree and Internal Medicine Specialty at the Faculty of Medical Sciences of Isla de la Juventud.
- ♦ Professor of the Professional Master's Degree in Infectious Diseases in the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Member of state examining boards for the medicine degree and internal medicine.
- ♦ Member of tribunals for national scientific events. Cuba
- ♦ Medical Science Teaching Award. Cuba.
- ♦ Professor at the Catholic University of Santiago de Guayaquil Ecuador, 2018.

Dr. Cantalapiedra Torres, Alejandro

- ♦ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ♦ Pediatrician. "Héroes del Baire" Hospital.
- ♦ Master's Degree in Infectious Diseases.
- ♦ Diploma in Medical Teaching.
- ♦ Diploma in Health Management.
- ♦ Member of the Cuban Society of Pediatrics.
- ♦ Professor in the Medicine Degree and Pediatrics Specialty in the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Member of tribunals for national scientific events. Cuba.
- ♦ Medical Specialist in Haiti in 2000-01
- ♦ Medical Specialist in Antigua and Barbuda in 2008.

Lic. Lawrence Carmenate, Araelis

- ♦ Lic. In Microbiology from the University of Havana.
- ♦ Master's Degree in Infectious Diseases.
- ♦ Professor on the Medicine Degree in the Faculty of Medical Sciences in Isla de la Juventud
- ♦ Member of the Cuban Society of Microbiology.
- ♦ Member of the Associations of Teachers.
- ♦ Worked in Caracas, Venezuela from 2012 to 2014
- ♦ Participated in national and international Microbiology events in Cuba and Venezuela.

Dr. Luís Dávila, Heenry

- ♦ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ♦ Specialist in Gynecology and Obstetrics at Héroes del Baire Hospital. Cuba.
- ♦ Professional Master's Degree in Comprehensive Care for Women.
- ♦ Head of the Neck Pathology Service at Héroes del Baire Hospital.
- ♦ Member of the Cuban Society of Gynecology and Obstetrics.
- ♦ Member of the Cuban Society of Teachers.
- ♦ Medical specialist in Guatemala, 2010-12.
- ♦ Professor on the Medicine Degree in the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Member of state examining boards medicine.
- ♦ Member of tribunals for national scientific events. Cuba
- ♦ National research award. Cuba
- ♦ Medical Science Teaching Award. Cuba.

Dr. Jiménez Valdés, Erlivan

- ♦ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ♦ Pediatrician. "Héroes del Baire" Hospital.
- ♦ Master's Degree in comprehensive childcare.
- ♦ Member of the Cuban Society of Pediatrics.
- ♦ Professor in the Medicine Degree and Pediatrics Specialty in the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Member of tribunals for national scientific events. Cuba.
- ♦ Medical specialist in Venezuela in 2017.



Dr. Batista Valladares, Adrián

- ♦ Degree in Medicine and Surgery from the University of Havana. Cuba.
- ♦ Specialist in Family and Community Medicine.
- ♦ Master's Degree in Clinical Infectology.
- ♦ Diploma in Diagnostic Ultrasound.
- ♦ Diploma in Healthcare Management.
- ♦ Head of Senior Citizen Services in Isla de la Juventud. Cuba.
- ♦ Member of the Cuban Society of Family Medicine.
- ♦ Professor of the medicine and family medicine degrees at the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Professor of the Professional Master's Degree in Infectious Diseases in the Faculty of Medical Sciences in Isla de la Juventud.
- ♦ Member of state examining boards for the medicine degree and family medicine.
- ♦ Member of tribunals for national scientific events. Cuba

Lic. González Fiallo, Sayli

- ♦ Degree in Hygiene and Epidemiology
- ♦ Master's Degree in Epidemiology
- ♦ Professor of the Faculty of Medical Sciences in Isla de la Juventud
- ♦ Director of the Health Analysis, Biostatistics, and Surveillance Unit of the Municipal Health Directorate. Isla de la Juventud.

04

Structure and Content

The educational program has been created by a group of professors and medical professionals from various medical specialties, with extensive medical, research and teaching experience in several countries in Europe, Africa, Central and South America, interested in integrating the latest and most current scientific knowledge of antibiotics in the treatment of bacterial infections to ensure training and professional development to improve the daily clinical practice of professionals who care for patients or populations with infectious diseases.





“

A unique academic experience, key and decisive to boost your professional development"

Module 1. Antimicrobials: General Aspects

- 1.1. History and the Development of Antimicrobials.
 - 1.1.1. Emergence and Development of Antimicrobial Treatments.
 - 1.1.2. Impact on Morbidity and Mortality of Infectious Diseases.
- 1.2. Classifications: Practical and Future Use of Each Class.
 - 1.2.1. Chemical Classification.
 - 1.2.2. Classification by Antimicrobial Action.
 - 1.2.3. Classification According to their Antimicrobial Spectrum.
- 1.3. Update on the Mechanisms of Action of Antimicrobials.
 - 1.3.1. Main Antimicrobial Mechanisms of Action.
- 1.4. General and Latest Elements of Antimicrobial Treatments.
 - 1.4.1. General and Recent Concepts in the Use of Antimicrobials.
 - 1.4.2. New Developments in the Use of Antimicrobial Combinations.
 - 1.4.3. Interactions between Antimicrobials.
- 1.5. Antibiotic Prophylaxis: Its Current Role in Surgical Morbidity and Mortality.
 - 1.5.1. Concept.
 - 1.5.2. Objectives.
 - 1.5.3. Types of Antibiotic Prophylaxis.
 - 1.5.4. Perioperative Antibiotic Prophylaxis.
- 1.6. Phased Antibiotic Treatment: Current Criteria.
 - 1.6.1. Concept.
 - 1.6.2. Principles.
 - 1.6.3. Objectives.
- 1.7. Latest Concepts in the Use of Antibiotics in Renal Failure.
 - 1.7.1. Renal Excretion of Antibiotics.
 - 1.7.2. Renal Toxicity of Antibiotics.
 - 1.7.3. Dose Modification in Renal Failure.
- 1.8. Antibiotics and the Blood-Brain Barrier: Recent Findings.
 - 1.8.1. The Passage of Antibiotics through the Blood-Brain Barrier.
 - 1.8.2. Antibiotics in Central Nervous System Infections.

- 1.9. Antibiotics and Liver Failure: Progress and Future Challenges.
 - 1.9.1. Hepatic Metabolism of Antibiotics.
 - 1.9.2. Hepatic Toxicity of Antimicrobials.
 - 1.9.3. Dose Adjustment in Hepatic Insufficiency.
- 1.10. Antibiotic Use in the Immunosuppressed: The New Paradigm.
 - 1.10.1. Immune Response to Infection.
 - 1.10.2. Main Opportunistic Germs in the Immunosuppressed.
 - 1.10.3. Principles for the Choice and Duration of Antibiotic Therapy in the Immunosuppressed.
- 1.11. Antibiotics in Pregnancy and Lactation: The Safety of their Use According to the Latest Scientific Findings.
 - 1.11.1. The Passage of Antibiotics through the Placenta.
 - 1.11.2. Antibiotics and Breast Milk.
 - 1.11.3. Teratogenicity of Antibiotics.

Module 2. Antibiotics I

- 2.1. Advances in the Knowledge of the Synthesis and Structure the Beta-Lactam Ring.
 - 2.1.1. Structure of the Beta-Lactam Ring.
 - 2.1.2. Drugs that Act on the Synthesis of the Beta-Lactam Ring.
- 2.2. Penicillins: New Drugs and their Future Role in Anti-Infection Treatments.
 - 2.2.1. Classification.
 - 2.2.2. Mechanism of Action.
 - 2.2.3. Antimicrobial Spectrum.
 - 2.2.4. Pharmacokinetics and Pharmacodynamics.
 - 2.2.5. Therapeutic Uses.
 - 2.2.6. Adverse Effects.
 - 2.2.7. Presentation and Dosage.
- 2.3. Antistaphylococcal Penicillins: From Old to New and their Practical Implications.
 - 2.3.1. Classification.
 - 2.3.2. Mechanism of Action.
 - 2.3.3. Antimicrobial Spectrum.
 - 2.3.4. Pharmacokinetics and Pharmacodynamics.
 - 2.3.5. Therapeutic Uses.
 - 2.3.6. Adverse Effects.
 - 2.3.7. Presentation and Dosage.

- 2.4. Antipseudomonal Penicillins: Current Resistance Challenge.
 - 2.4.1. Classification.
 - 2.4.2. Mechanism of Action.
 - 2.4.3. Antimicrobial Spectrum.
 - 2.4.4. Pharmacokinetics and Pharmacodynamics.
 - 2.4.5. Therapeutic Uses.
 - 2.4.6. Adverse Effects.
 - 2.4.7. Presentation and Dosage.
- 2.5. Cephalosporins: Present and Future.
 - 2.5.1. Classification.
 - 2.5.2. Mechanism of Action.
 - 2.5.3. Antimicrobial Spectrum.
 - 2.5.4. Pharmacokinetics and Pharmacodynamics.
 - 2.5.5. Therapeutic Uses.
 - 2.5.6. Adverse Effects.
 - 2.5.7. Presentation and Dosage.
- 2.6. Oral Cephalosporins: New Developments in their Outpatient Use.
 - 2.6.1. Classification.
 - 2.6.2. Mechanism of Action.
 - 2.6.3. Antimicrobial Spectrum.
 - 2.6.4. Pharmacokinetics and Pharmacodynamics.
 - 2.6.5. Therapeutic Uses.
 - 2.6.6. Adverse Effects.
 - 2.6.7. Presentation and Dosage.
- 2.7. Monobactams.
 - 2.7.1. Classification.
 - 2.7.2. Mechanism of Action.
 - 2.7.3. Antimicrobial Spectrum.
 - 2.7.4. Pharmacokinetics and Pharmacodynamics.
 - 2.7.5. Therapeutic Uses.
 - 2.7.6. Adverse Effects.
 - 2.7.7. Presentation and Dosage.

- 2.8. Carbapenems.
 - 2.8.1. Classification.
 - 2.8.2. Mechanism of Action.
 - 2.8.3. Antimicrobial Spectrum.
 - 2.8.4. Pharmacokinetics and Pharmacodynamics.
 - 2.8.5. Therapeutic Uses.
 - 2.8.6. Adverse Effects.
 - 2.8.7. Presentation and Dosage.
- 2.9. Bataclatamases: Recent Discovery of Strains and their Role in Resistance.
 - 2.9.1. Classification.
 - 2.9.2. Action on Beta-Lactams.
- 2.10. Beta-Lactamase Inhibitors.
 - 2.10.1. Classification.
 - 2.10.2. Mechanism of Action.
 - 2.10.3. Antimicrobial Spectrum.
 - 2.10.4. Pharmacokinetics and Pharmacodynamics.
 - 2.10.5. Therapeutic Uses.
 - 2.10.6. Adverse Effects.
 - 2.10.7. Presentation and Dosage.

Module 3. Antibiotics II

- 3.1. Glycopeptides: The New Drugs for Gram-Positive Germs.
 - 3.1.1. Classification.
 - 3.1.2. Mechanism of Action.
 - 3.1.3. Antimicrobial Spectrum.
 - 3.1.4. Pharmacokinetics and Pharmacodynamics.
 - 3.1.5. Therapeutic Uses.
 - 3.1.6. Adverse Effects.
 - 3.1.7. Presentation and Dosage.

- 3.2. Cyclic Lipopeptides: Recent Advances and Future Role.
 - 3.2.1. Classification.
 - 3.2.2. Mechanism of Action.
 - 3.2.3. Antimicrobial Spectrum.
 - 3.2.4. Pharmacokinetics and Pharmacodynamics.
 - 3.2.5. Therapeutic Uses.
 - 3.2.6. Adverse Effects.
 - 3.2.7. Presentation and Dosage.
- 3.3. Macrolides: Their Immunomodulator Role in the Respiratory System.
 - 3.3.1. Classification.
 - 3.3.2. Mechanism of Action.
 - 3.3.3. Antimicrobial Spectrum.
 - 3.3.4. Pharmacokinetics and Pharmacodynamics.
 - 3.3.5. Therapeutic Uses.
 - 3.3.6. Adverse Effects.
 - 3.3.7. Presentation and Dosage.
- 3.4. Ketolides.
 - 3.4.1. Classification.
 - 3.4.2. Mechanism of Action.
 - 3.4.3. Antimicrobial Spectrum.
 - 3.4.4. Pharmacokinetics and Pharmacodynamics.
 - 3.4.5. Therapeutic Uses.
 - 3.4.6. Adverse Effects.
 - 3.4.7. Presentation and Dosage.
- 3.5. Tetracyclines: Old and New Indications According to the Most Recent Advances in Emerging Diseases.
 - 3.5.1. Classification.
 - 3.5.2. Mechanism of Action.
 - 3.5.3. Antimicrobial Spectrum.
 - 3.5.4. Pharmacokinetics and Pharmacodynamics.
 - 3.5.5. Therapeutic Uses.
 - 3.5.6. Adverse Effects.
 - 3.5.7. Presentation and Dosage.
- 3.6. Aminoglycosides: Facts and Realities of their Current and Future Utilization.
 - 3.6.1. Classification.
 - 3.6.2. Mechanism of Action.
 - 3.6.3. Antimicrobial Spectrum.
 - 3.6.4. Pharmacokinetics and Pharmacodynamics.
 - 3.6.5. Current Therapeutic Uses and Future Trends.
 - 3.6.6. Adverse Effects.
 - 3.6.7. Presentation and Dosage.
- 3.7. Quinolones: All Generations and Practical Use.
 - 3.7.1. Classification.
 - 3.7.2. Mechanism of Action.
 - 3.7.3. Antimicrobial Spectrum.
 - 3.7.4. Pharmacokinetics and Pharmacodynamics.
 - 3.7.5. Therapeutic Uses.
 - 3.7.6. Adverse Effects.
 - 3.7.7. Presentation and Dosage.
- 3.8. Respiratory Quinolones: Latest Recommendations on their Use.
 - 3.8.1. Classification.
 - 3.8.2. Mechanism of Action.
 - 3.8.3. Antimicrobial Spectrum.
 - 3.8.4. Pharmacokinetics and Pharmacodynamics.
 - 3.8.5. Therapeutic Uses.
 - 3.8.6. Adverse Effects.
 - 3.8.7. Presentation and Dosage.
- 3.9. Streptogramins.
 - 3.9.1. Classification.
 - 3.9.2. Mechanism of Action.
 - 3.9.3. Antimicrobial Spectrum.
 - 3.9.4. Pharmacokinetics and Pharmacodynamics.
 - 3.9.5. Therapeutic Uses.
 - 3.9.6. Adverse Effects.
 - 3.9.7. Presentation and Dosage.

Module 4. Antibiotics III

- 4.1. Oxazolinones.
 - 4.1.1. Classification.
 - 4.1.2. Mechanism of Action.
 - 4.1.3. Antimicrobial Spectrum.
 - 4.1.4. Pharmacokinetics and Pharmacodynamics.
 - 4.1.5. Therapeutic Uses.
 - 4.1.6. Adverse Effects.
 - 4.1.7. Presentation and Dosage.
- 4.2. Sulfas.
 - 4.2.1. Classification.
 - 4.2.2. Mechanism of Action.
 - 4.2.3. Antimicrobial Spectrum.
 - 4.2.4. Pharmacokinetics and Pharmacodynamics.
 - 4.2.5. Therapeutic Uses.
 - 4.2.6. Adverse Effects.
 - 4.2.7. Presentation and Dosage.
- 4.3. Lincosamides.
 - 4.3.1. Classification.
 - 4.3.2. Mechanism of Action.
 - 4.3.3. Antimicrobial Spectrum.
 - 4.3.4. Pharmacokinetics and Pharmacodynamics.
 - 4.3.5. Therapeutic Uses.
 - 4.3.6. Adverse Effects.
 - 4.3.7. Presentation and Dosage.
- 4.4. Rifamycins: Practical Use in TB and Other Infections Today.
 - 4.4.1. Classification.
 - 4.4.2. Mechanism of Action.
 - 4.4.3. Antimicrobial Spectrum.
 - 4.4.4. Pharmacokinetics and Pharmacodynamics.
 - 4.4.5. Therapeutic Uses.
 - 4.4.6. Adverse Effects.
 - 4.4.7. Presentation and Dosage.
- 4.5. Antifolates.
 - 4.5.1. Classification.
 - 4.5.2. Mechanism of Action.
 - 4.5.3. Antimicrobial Spectrum.
 - 4.5.4. Pharmacokinetics and Pharmacodynamics.
 - 4.5.5. Therapeutic Uses.
 - 4.5.6. Adverse Effects.
 - 4.5.7. Presentation and Dosage.
- 4.6. Antibiotics for Leprosy: Recent Advances.
 - 4.6.1. Classification.
 - 4.6.2. Mechanism of Action.
 - 4.6.3. Antimicrobial Spectrum.
 - 4.6.4. Pharmacokinetics and Pharmacodynamics.
 - 4.6.5. Therapeutic Uses.
 - 4.6.6. Adverse Effects.
 - 4.6.7. Presentation and Dosage.
- 4.7. Antituberculosis Drugs: Latest Recommendations for their Use.
 - 4.7.1. Classification.
 - 4.7.2. Mechanism of Action.
 - 4.7.3. Antimicrobial Spectrum.
 - 4.7.4. Pharmacokinetics and Pharmacodynamics.
 - 4.7.5. Therapeutic Uses.
 - 4.7.6. Adverse Effects.
 - 4.7.7. Presentation and Dosage.
- 4.8. Parenteral Antibiotic Use in Outpatients: Latest Recommendations.
 - 4.8.1. Main Indications for Parenteral Antibiotics in Outpatients.
 - 4.8.2. Monitoring Outpatients Receiving Parenteral Antibiotic Treatment.
- 4.9. The Latest on Antibiotics for Multidrug-Resistant Bacteria:
 - 4.9.1. Antibiotics for Multidrug-Resistant Gram-Positive Bacteria.
 - 4.9.2. Antibiotics for Multidrug-Resistant Gram-Negative Bacteria.

05

Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: *Re-learning*.

This teaching system is used 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 Re-learning, 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

In a given situation, what would you do? 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 abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you can experience a way of learning that is shaking the foundations of traditional universities around the world.



According to Dr. Gervas, 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 potential or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in professional medical 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. Students who follow this method not only grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on 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.



Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

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.



The physician 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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Re-learning 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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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



In this program you will have access to the best educational material, prepared with you 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.

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.



Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



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.

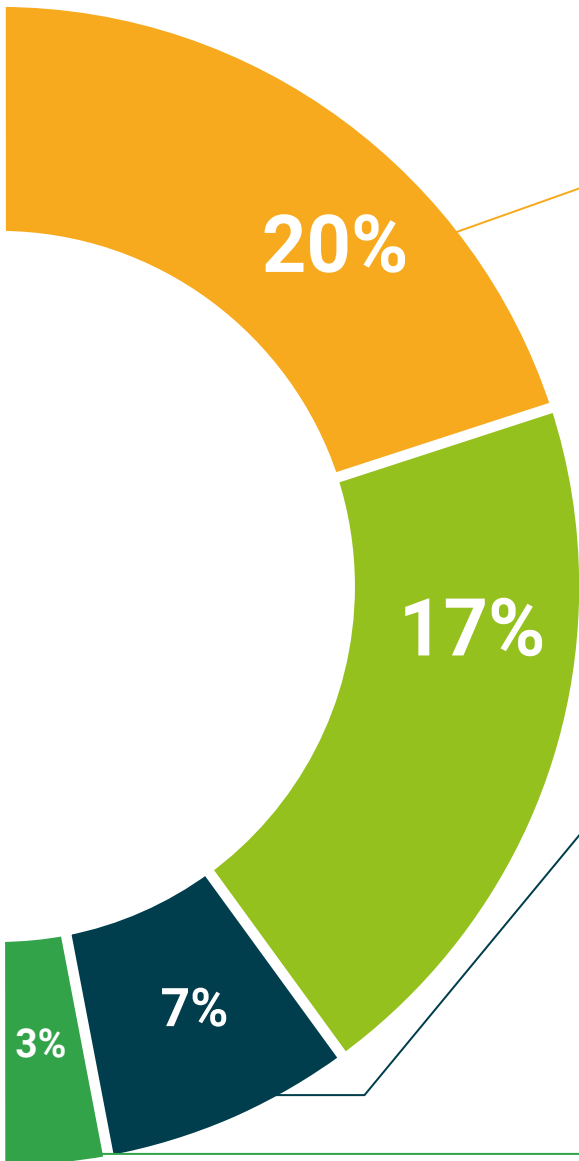
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



Additional Reading

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.





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 & Re-testing

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your 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 our future difficult decisions.



Quick Action Guides

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.



06 Certificate

This Postgraduate Diploma in Antibiotics in the Treatment of Bacterial Infections guarantees you, in addition to the most rigorous and updated Specialization, access to a Postgraduate Diploma issued by **TECH Technological University**.



“

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

This **Postgraduate Diploma in Antibiotics in the Treatment of Bacterial Infections** contains the most complete and up-to-date scientific program on the market.

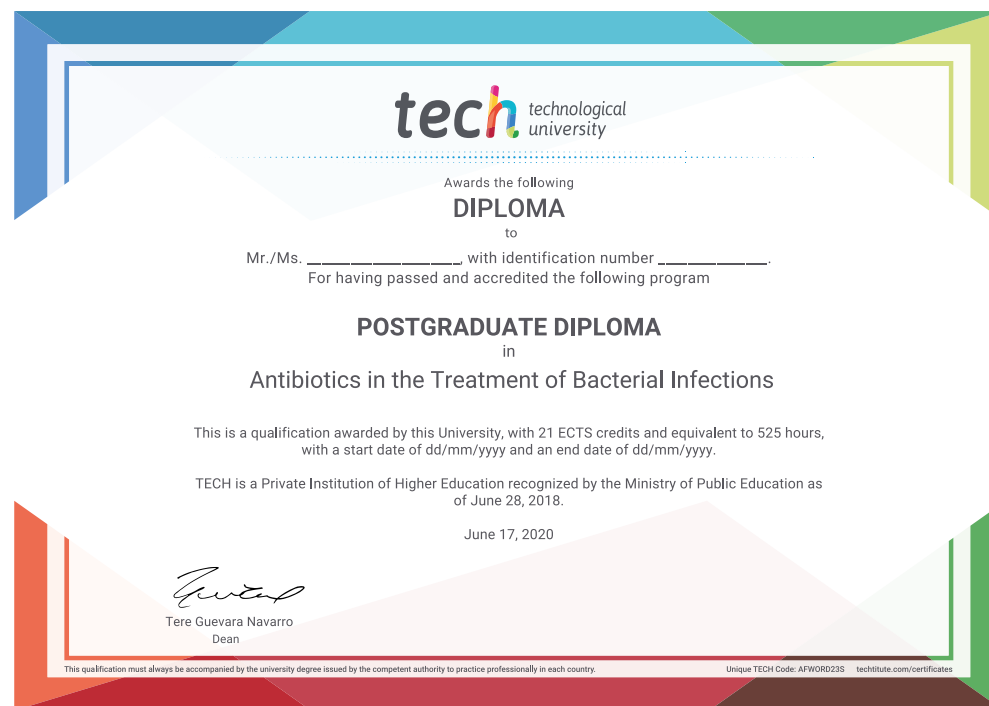
After the student has passed the assessments, they will receive their corresponding **Postgraduate Diploma** issued by **TECH Technological University** via **tracked delivery**.

This degree contributes to the academic development of the professional and adds a high university curricular value to their training. It is 100% valid in all competitive examinations, labour exchanges and professional career evaluation committees.

Title: **Postgraduate Diploma in Antibiotics in the Treatment of Bacterial Infections**

ECTS: **21**

No. of Official Hours: **525**



*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.

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

tech technological
university

Postgraduate Diploma
Antibiotics in the Treatment
of Bacterial Infections

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at you
- » Exams: online

Postgraduate Diploma

Antibiotics in the Treatment of Bacterial Infections

