



Master's Degree

Advances in Antibiotic Therapy and Antibiotic Resistance

» Modality: online

» Duration: 12 months

» Certificate: TECH Global University

» Acreditation: 60 ECTS

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/medicine/master-degree/master-degree-advances-antibiotic-therapy-antibiotic-resistance

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One of the greatest challenges today is addressing Antibiotic Resistance, a phenomenon driven by the indiscriminate use of antibiotics in both humans and animals. This issue has slowed the development of new treatments, as research and investment are progressing at a still limited pace. At the same time, it presents a significant challenge in Microbiology laboratories, where the rational and accurate use of these drugs is essential. To effectively tackle this problem, healthcare professionals must stay informed about the latest advances in the research, approval, and commercialization of new antibiotics, as well as in the monitoring and management of antibiotic therapy.

In response to this need, TECH offers an innovative Master's Degree in Advances in Antibiotic Therapy and Antibiotic Resistance. The program's learning materials will delve into the latest trends in pharmacology, the study of the blood-brain barrier, and so-called "superbugs." Graduates will gain advanced clinical competencies to optimize antibiotic prescriptions, select targeted therapies, and apply infection control strategies in various clinical settings. They will also be equipped to interpret advanced microbiological diagnostic tests, analyze patterns of antimicrobial resistance, and design management protocols for patients with multidrug-resistant infections.

In addition, TECH applies its disruptive Relearning methodology, which ensures a progressive and intuitive learning process. As a result, professionals do not need to invest long hours in study or rely on traditional memorization-based techniques. Learners only need a device with an Internet connection to access the virtual classroom.

Moreover, the program features the participation of a renowned International Guest Director, who will deliver 10 Masterclasses.

This Master's Degree in Advances in Antibiotic Therapy and Antibiotic Resistance contains the most complete and up-to-date university program on the market. Its most notable features are:

- The development of practical case studies presented by experts in Medicine
- 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 the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies in the management of the audiovisual industry
- 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 renowned International Guest Director will offer exclusive Masterclasses to delve into the the latest advances and Strategies in Antibiotic Resistance"



Thanks to TECH's Relearning method, you will be able to consolidate the key concepts offered by this university degree from the comfort of your home"

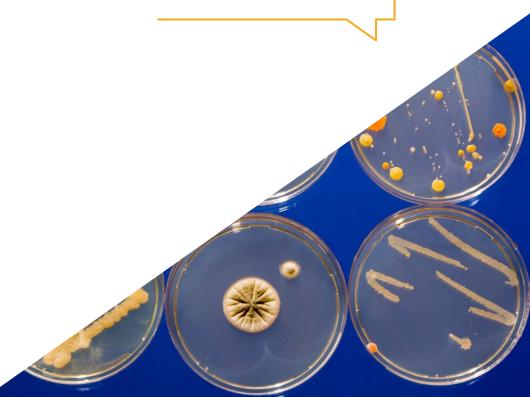
The teaching staff includes professionals belonging to the field of medicine, who contribute their work experience to this program, as well as renowned specialists from reference societies and prestigious universities.

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 an immersive learning experience designed to prepare for real-life situations.

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

You will understand the mechanisms of action of Antibiotics, as well as their pharmacokinetics and impact on the microbiota.

You will optimize Antibiotic prescription, ensuring a rational use based on evidence and individual characteristics of the users.







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The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.



The most complete syllabus





World's
No.1
The World's largest
online university

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.









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Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

The top-rated university by its students

Students have positioned TECH as the world's toprated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.





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Module 1. Overview of Microbiology

- 1.1. General Elements of Microbiology
 - 1.1.1. The Role of Microbiology in the Study of Infectious Diseases
 - 1.1.2. Structure and Function of the Microbiology Laboratory
 - 1.1.3. Indication and interpretation of microbiological studies
- 1.2. Virology
 - 1.2.1. General Characteristics of Viruses
 - 1.2.2. Classification and the Main Viruses Affecting Humans
 - 1.2.3. Emerging Viruses
 - 1.2.4. Virological Studies
- 1.3. Bacteriology: Current Concepts for Antibiotic Therapeutics
 - 1.3.1. General Characteristics of Bacteria
 - 1.3.2. Classification and Main Bacteria Affecting Humans
 - 1.3.3. Microbiological Studies
- 1.4. Mycology
 - 1.4.1. General Characteristics of Fungi
 - 1.4.2. Classification and Main Fungi Affecting Humans
 - 1.4.3. Mycological Studies
- 1.5. Parasitology
 - 1.5.1. General Characteristics of Parasites
 - 1.5.2. Classification and Main Parasites Affecting Humans
 - 1.5.3. Parasitological Studies
- 1.6. The Microbiological Sample: Collection, Storage and Transport
 - 1.6.1. The Microbiological Sampling Process: Preanalytical, Analytical, and Postanalytical Stages
 - 1.6.2. Sampling Requirements for the Main Microbiological Studies used in Daily Clinical Practice: Blood, Urine, Stool and Sputum
- 1.7. Antibiogram: New Concepts for Interpretation and Utilization
 - 1.7.1. Traditional Antibiogram Reading
 - 1.7.2. Interpreted Antibiogram Reading and the Mechanisms of New Antimicrobial Resistance Phenotypes
 - 1.7.3. Antimicrobial Mapping and Resistance Patterns

- 1.8. Rapid Diagnostic Methods: News about their Application
 - 1.8.1. Rapid Diagnostic Methods for Viruses
 - 1.8.2. Rapid Diagnostic Methods for Bacteria
 - 1.8.3. Rapid Diagnostic Methods for Fungi
 - 1.8.4. Rapid Diagnostic Methods for Parasites
- 1.9. Molecular Biology in Microbiological Diagnostics: Its Role in the Future
 - 1.9.1. Development and Application of Molecular Biology in Microbiological Methods
- 1.10. Microbiology: Challenges to Improve Antibiotic Usage and Control Antibiotic Resistance
 - 1.10.1. Challenges and Obstacles for Microbiological Diagnostics
 - 1.10.2. Future Challenges of Microbiology Laboratory Management in the Correct and Rational Use of Antibiotics
 - 1.10.3. Future Microbiological Techniques to Study Antibiotic Resistance

Module 2. Introduction to Pharmacology and Treatment

- 2.1. Utility of Clinical Pharmacology
 - 2.1.1. Concept
 - 2.1.2. Object of Study
 - 2.1.3. Branches of Pharmacology
 - 2.1.4. Use of Clinical Pharmacology
- 2.2. Pharmacokinetics: Certainties and Contradictions in its Practical Use
 - 2.2.1. The Dynamics of Absorption, Distribution, Metabolism, and Elimination of Drugs, Especially Antimicrobials
- 2.3. Pharmacodynamics: Its Use in the Practical Use of New Antimicrobials
 - 2.3.1. Molecular Mechanisms of Action of Drugs, Especially Antimicrobials
 - 2.3.2. Drug-Drug Interactions of Antibiotics with Other Medications
 - 2.3.3. Pharmacokinetics/Pharmacodynamics Models in Antibiotic Use
- 2.4. Pharmacovigilance
 - 2.4.1. Concept
 - 2.4.2. Objectives
 - 2.4.3. Antibiotic Adverse Reactions

- Pharmacoepidemiology: Update on Antimicrobial Research.
 - 2.5.1. Concept
 - 2.5.2. Objectives
 - 2.5.3. Drug Usage Studies
- 2.6. Clinical Trials
 - 2.6.1. Concept
 - 2.6.2. Study Methodology
 - 2.6.3. Objectives
 - 2.6.4. The Stages of Clinical Trials
 - 2.6.5. Uses
- 2.7. Meta-Analysis
 - 2.7.1. Concept
 - 2.7.2. Study Methodology
 - 2.7.3. Objectives
 - 274 Uses
- 2.8. Rational Treatment: From Old to New and Evidence-Based Medicine
 - 2.8.1. Stages of Rational Treatment
 - 2.8.2. Use and Importance of Rational Treatment
- 2.9. Clinical Practice Guidelines: New Approaches to Practical Application
 - 2.9.1. Creating Clinical Practice Guidelines
 - 2.9.2. The Impact of Clinical Practice Guidelines
- 2.10. Clinical Pharmacology: Advances and Future Perspectives for the Improvement of Antibiotic Treatment.
 - 2.10.1. Research Activities and Scientific Advances: Pharmacy Fiction?
 - 2.10.2. Molecular Pharmacology: its Role in Antibiotic Therapy

Module 3. Antimicrobials: General Aspects

- 3.1. History and Development of Antimicrobials
 - 3.1.1. Emergence and Development of Antimicrobial Treatments
 - 3.1.2. Impact on Morbidity and Mortality of Infectious Diseases
- 3.2. Classifications: Practical and Future Use of Each Each One Of Them.
 - 3.2.1. Chemical Classification
 - 3.2.2. Classification by Antimicrobial Action
 - 3.2.3. Classification According to their Antimicrobial Spectrum

- 3.3. Update on the Mechanisms of Action of Antimicrobials
 - 3.3.1. Main Antimicrobial Mechanisms of Action
- 3.4. General and Latest Elements of Antimicrobial Treatments
 - 3.4.1. General and Recent Concepts in the Use of Antimicrobials
 - 3.4.2. New Developments in the Use of Antimicrobial Combinations
 - 3.4.3. Interactions between Antimicrobials
- 3.5. Antibiotic Prophylaxis: Its Current Role in Surgical Morbidity and Mortality
 - 3.5.1. Concept
 - 3.5.2. Objectives
 - 3.5.3. Types of Antibiotic Prophylaxis
 - 3.5.4. Perioperative Antibiotic Prophylaxis
- 3.6. Phased Antibiotic Treatment: Current Criteria
 - 3.6.1. Concept
 - 3.6.2. Principles
 - 3.6.3. Objectives
- 3.7. Latest Concepts in the Use of Antibiotics in Renal Failure
 - 3.7.1. Renal Excretion of Antibiotics
 - 3.7.2. Renal Toxicity of Antibiotics
 - 3.7.3. Dose Modification in Renal Failure
- 3.8. Antibiotics and the Blood-Brain Barrier: Recent Findings
 - 3.8.1. The Passage of Antibiotics through the Blood-Brain Barrier
 - 3.8.2. Antibiotics in Central Nervous System Infections
- 3.9. Antibiotics and Liver Failure: Progress and Future Challenges
 - 3.9.1. Hepatic Metabolism of Antibiotics
 - 3.9.2. Hepatic Toxicity of Antimicrobials
 - 8.9.3. Dose Adjustment in Hepatic Insufficiency
- 3.10. Antibiotic Use in the Immunosuppressed: The New Paradigm
 - 3.10.1. Immune Response to Infection
 - 3.10.2. Main Opportunistic Germs in the Immunosuppressed
 - 3.10.3. Principles for the Choice and Duration of Antibiotic Therapy in the Immunosuppressed

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- 3.11. Antibiotics in Pregnancy and Lactation: The Safety of their Use According to the Latest Scientific Findings
 - 3.11.1. The Passage of Antibiotics through the Placenta
 - 3.11.2. Antibiotics and Breast Milk
 - 3.11.3. Teratogenicity of Antibiotics

Module 4. Antivirals

- 4.1. General Features of Antivirals
 - 4.1.1. Classification
 - 4.1.2. Main Indications of Antivirals
- 4.2. Mechanisms of Action
 - 4.2.1. Mechanisms of Action of Antivirals
- 4.3. Antivirals for Hepatitis: New Recommendations and Future Research Projections
 - 4.3.1. Specific Viral Hepatitis
 - 4.3.2. Hepatitis B Treatment
 - 4.3.3. Hepatitis C Treatment
- 4.4. Antivirals for Respiratory Infections: Current Scientific Evidence
 - 4.4.1. Main Respiratory Viruses
 - 4.4.2. Influenza Treatment
 - 4.4.3. Other Respiratory System Virus Treatments
- 4.5. Antivirals for Herpes Viruses: Recent Changes in Management
 - 4.5.1. Main Herpes Virus Infections
 - 4.5.2. Herpes Simplex Infection Treatment
 - 4.5.3. Treatment of Varicella Zoster Virus Infections
- 4.6. Antiretrovirals for HIV: Certainties and Controversies. Future Challenges
 - 4.6.1. Classification of Antiretrovirals
 - 4.6.2. Mechanisms of Action of Antiretrovirals
 - 4.6.3. Antiretroviral Treatment of HIV Infection
 - 4.6.4. Adverse Reactions
 - 4.6.5. Antiretroviral Treatment Failure
- 4.7. Topical Antivirals
 - 4.7.1. Main Viral Infections of the Skin and Mucous Membranes
 - 4.7.2. Topical Antivirals

- 4.8. Update on Interferons: Their Use in Viral and Non-Infectious Diseases
 - 4.8.1. Classification and Action of Interferons
 - 4.8.2. Uses of Interferons
 - 4.8.3. Adverse Reactions of Interferons
- 4.9. New Areas of Antiviral Development
 - 4.9.1. Antibiotics in Viral Hemorrhagic Fevers
 - 4.9.2. Future Prospects for Antiviral Chemotherapy

Module 5. Antibiotics I

- 5.1. Advances in the Knowledge of the Synthesis and Structure of the Beta-Lactam Ring
 - 5.1.1. Structure of the Beta-Lactam Ring
 - 5.1.2. Drugs that Act on the Synthesis of the Beta-Lactam Ring
- 5.2. Penicillins: New Drugs and their Future Role in Anti-Infection Treatments
 - 5.2.1. Classification
 - 5.2.2. Mechanism of Action
 - 5.2.3. Antimicrobial Spectrum
 - 5.2.4. Pharmacokinetics and Pharmacodynamics
 - 5.2.5. Therapeutic Uses
 - 5.2.6. Adverse Effects
 - 5.2.7. Presentation and Dosage
- 5.3. Antistaphylococcal Penicillins: From Old to New and their Practical Implications
 - 5.3.1. Classification
 - 5.3.2. Mechanism of Action
 - 5.3.3. Antimicrobial Spectrum
 - 5.3.4. Pharmacokinetics and Pharmacodynamics
 - 5.3.5. Therapeutic Uses
 - 5.3.6. Adverse Effects
 - 5.3.7. Presentation and Dosage
- 5.4. Antipseudomonal Penicillins: Current Resistance Challenge
 - 5.4.1. Classification
 - 5.4.2. Mechanism of Action
 - 5.4.3. Antimicrobial Spectrum
 - 5.4.4. Pharmacokinetics and Pharmacodynamics

- 5.4.5. Therapeutic Uses
- 5.4.6. Adverse Effects
- 5.4.7. Presentation and Dosage
- 5.5. Cephalosporins: Present and Future
 - 5.5.1. Classification
 - 5.5.2. Mechanism of Action
 - 5.5.3. Antimicrobial Spectrum
 - 5.5.4. Pharmacokinetics and Pharmacodynamics
 - 5.5.5. Therapeutic Uses
 - 5.5.6. Adverse Effects
 - 5.5.7. Presentation and Dosage
- 5.6. Oral Cephalosporins: New Developments in their Outpatient Use
 - 5.6.1. Classification
 - 5.6.2. Mechanism of Action
 - 5.6.3. Antimicrobial Spectrum
 - 5.6.4. Pharmacokinetics and Pharmacodynamics
 - 5.6.5. Therapeutic Uses
 - 5.6.6. Adverse Effects
 - 5.6.7. Presentation and Dosage
- 5.7. Monobactams
 - 5.7.1. Classification
 - 5.7.2. Mechanism of Action
 - 5.7.3. Antimicrobial Spectrum
 - 5.7.4. Pharmacokinetics and Pharmacodynamics
 - 5.7.5. Therapeutic Uses
 - 5.7.6. Adverse Effects
 - 5.7.7. Presentation and Dosage
- 5.8. Carbapenemics
 - 5.8.1. Classification
 - 5.8.2. Mechanism of Action
 - 5.8.3. Antimicrobial Spectrum
 - 5.8.4. Pharmacokinetics and Pharmacodynamics

- 5.8.5. Therapeutic Uses
- 5.8.6. Adverse Effects
- 5.8.7. Presentation and Dosage
- 5.9. Beta-Lactamases: The Recent Discovery of Strains and their Role in Resistance
 - 5.9.1. Classification
 - 5.9.2. Action on Beta-Lactams
- 5.10. Beta-Lactamase Inhibitors
 - 5.10.1. Classification
 - 5.10.2. Mechanism of Action
 - 5.10.3. Antimicrobial Spectrum
 - 5.10.4. Pharmacokinetics and Pharmacodynamics
 - 5.10.5. Therapeutic Uses
 - 5.10.6. Adverse Effects
 - 5.10.7. Presentation and Dosage

Module 6. Antibiotics II

- 6.1. Glycopeptides: The New Drugs for GramPositive Germs
 - 6.1.1. Classification
 - 6.1.2. Mechanism of Action
 - 6.1.3. Antimicrobial Spectrum
 - 6.1.4. Pharmacokinetics and Pharmacodynamics
 - 6.1.5. Therapeutic Uses
 - 6.1.6. Adverse Effects
 - 6.1.7. Presentation and Dosage
- 6.2. Cyclic Lipopeptides: Recent Advances and its Future Role
 - 6.2.1. Classification
 - 6.2.2. Mechanism of Action
 - 6.2.3. Antimicrobial Spectrum
 - 6.2.4. Pharmacokinetics and Pharmacodynamics
 - 6.2.5. Therapeutic Uses
 - 6.2.6. Adverse Effects
 - 6.2.7. Presentation and Dosage

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6.3.	Macrolides: Their Role as an Immunomodulator in the Respiratory System					
	6.3.1.	Classification				
	6.3.2.	Mechanism of Action				
	6.3.3.	Antimicrobial Spectrum				
	6.3.4.	Pharmacokinetics and Pharmacodynamics				
	6.3.5.	Therapeutic Uses				
	6.3.6.	Adverse Effects				
	6.3.7.	Presentation and Dosage				
6.4.	Ketolides					
	6.4.1.	Classification				
	6.4.2.	Mechanism of Action				
	6.4.3.	Antimicrobial Spectrum				
	6.4.4.	Pharmacokinetics and Pharmacodynamics				
	6.4.5.	Therapeutic Uses				
	6.4.6.	Adverse Effects				
	6.4.7.	Presentation and Dosage				
6.5.	Tetracyclines: Old and New Indications According to the Most Recent Advances in					
	_	ing Diseases				
		Classification				
	6.5.2.	Mechanism of Action				
	6.5.3.	Antimicrobial Spectrum				
	6.5.4.	Pharmacokinetics and Pharmacodynamics				
	6.5.5.	Therapeutic Uses				
	6.5.6.	Adverse Effects				
	6.5.7.	Presentation and Dosage				
6.6.	Amino	Aminoglycosides: Facts and Realities of their Current and Future Utilization				
	6.6.1.	Classification				
	6.6.2.	Mechanism of Action				
	6.6.3.	Antimicrobial Spectrum				
	6.6.4.	Pharmacokinetics and Pharmacodynamics				
	6.6.5.	Current Therapeutic Uses and Future Trends				
	6.6.6.	Adverse Effects				
	6.6.7.	Presentation and Dosage				

6.7.	Quinol	Quinolones: All Generations and Practical Use		
	6.7.1.	Classification		
	6.7.2.	Mechanism of Action		
	6.7.3.	Antimicrobial Spectrum		
	6.7.4.	Pharmacokinetics and Pharmacodynamics		
	6.7.5.	Therapeutic Uses		
	6.7.6.	Adverse Effects		
	6.7.7.	Presentation and Dosage		
6.8.	Respiratory Quinolones: Latest Recommendations on th			
	6.8.1.	Classification		
	6.8.2.	Mechanism of Action		
	6.8.3.	Antimicrobial Spectrum		
	6.8.4.	Pharmacokinetics and Pharmacodynamics		
	6.8.5.	Therapeutic Uses		
	6.8.6.	Adverse Effects		
	6.8.7.	Presentation and Dosage		
6.9.	Streptogramins			
	6.9.1.	Classification		
	6.9.2.	Mechanism of Action		
	6.9.3.	Antimicrobial Spectrum		
	6.9.4.	Pharmacokinetics and Pharmacodynamics		
	6.9.5.	Therapeutic Uses		
	6.9.6.	Adverse Effects		
	6.9.7.	Presentation and Dosage		

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- 7.1.1. Classification
- 7.1.2. Mechanism of Action
- 7.1.3. Antimicrobial Spectrum
- 7.1.4. Pharmacokinetics and Pharmacodynamics
- 7.1.5. Therapeutic Uses
- 7.1.6. Adverse Effects
- 7.1.7. Presentation and Dosage

- 7.2. Sulfas
 - 7.2.1. Classification
 - 7.2.2. Mechanism of Action
 - 7.2.3. Antimicrobial Spectrum
 - 7.2.4. Pharmacokinetics and Pharmacodynamics
 - 7.2.5. Therapeutic Uses
 - 7.2.6. Adverse Effects
 - 7.2.7. Presentation and Dosage
- 7.3. Lincosamides
 - 7.3.1. Classification
 - 7.3.2. Mechanism of Action
 - 7.3.3. Antimicrobial Spectrum
 - 7.3.4. Pharmacokinetics and Pharmacodynamics
 - 7.3.5. Therapeutic Uses
 - 7.3.6. Adverse Effects
 - 7.3.7. Presentation and Dosage
- 7.4. Rifamycins: Practical Use in TB and Other Infections Today
 - 7.4.1. Classification
 - 7.4.2. Mechanism of Action
 - 7.4.3. Antimicrobial Spectrum
 - 7.4.4. Pharmacokinetics and Pharmacodynamics
 - 7.4.5. Therapeutic Uses
 - 7.4.6. Adverse Effects
 - 7.4.7. Presentation and Dosage
- 7.5. Antifolates
 - 7.5.1. Classification
 - 7.5.2. Mechanism of Action
 - 7.5.3. Antimicrobial Spectrum
 - 7.5.4. Pharmacokinetics and Pharmacodynamics
 - 7.5.5. Therapeutic Uses
 - 7.5.6. Adverse Effects
 - 7.5.7. Presentation and Dosage

- 7.6. Antibiotics for Leprosy: Recent Advances
 - 7.6.1. Classification
 - 7.6.2. Mechanism of Action
 - 7.6.3. Antimicrobial Spectrum
 - 7.6.4. Pharmacokinetics and Pharmacodynamics
 - 7.6.5. Therapeutic Uses
 - 7.6.6. Adverse Effects
 - 7.6.7. Presentation and Dosage
- 7.7. Antituberculosis Drugs: Latest Recommendations for their Use
 - 7.7.1. Classification
 - 7.7.2. Mechanism of Action
 - 7.7.3. Antimicrobial Spectrum
 - 7.7.4. Pharmacokinetics and Pharmacodynamics
 - 7.7.5. Therapeutic Uses
 - 7.7.6. Adverse Effects
 - 7.7.7. Presentation and Dosage
- 7.8. Parenteral Antibiotic Use in Outpatients: Latest Recommendations
 - 7.8.1. Main Indications for Parenteral Antibiotics in Outpatients
 - 7.8.2. Monitoring Outpatients Receiving Parenteral Antibiotic Treatment
- 7.9. Latest Developments on Antibiotics for Multidrug-Resistant Bacteria
 - 7.9.1. Antibiotics for Multidrug-Resistant Gram-Positive Bacteria
 - 7.9.2. Antibiotics for Multidrug-Resistant Gram-Negative Bacteria

Module 8. Antifungals

- 8.1. General Elements
 - 8.1.1. Concept
 - 8.1.2. Origins and Development
- 8.2. Classification
 - 8.2.1. Classification According to Chemical Structure
 - 8.2.2. Classification According to Action: Local and Systemic
- 3.3. Mechanisms of Action
 - 8.3.1. Mechanisms of Action of Antifungal Agents

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8.4.	Systemic Antifungals: Latest Developments on Their Toxicity and Present and Future				
	Indicat				
		Antimicrobial Spectrum			
	8.4.2.	Pharmacokinetics and Pharmacodynamics			
	8.4.3.	Therapeutic Uses			
	8.4.4.	Adverse Effects			
	8.4.5.	Presentation and Dosage			
8.5.	Amphotericin B: Novel Concepts in Its Use				
	8.5.1.	Mechanism of Action			
	8.5.2.	Antimicrobial Spectrum			
	8.5.3.	Pharmacokinetics and Pharmacodynamics			
	8.5.4.	Therapeutic Uses			
	8.5.5.	Adverse Effects			
	8.5.6.	Presentation and Dosage			
8.6.	Deep Mycosis Treatment: Current Events and Future Perspectives				
	8.6.1.	Aspergillosis			
	8.6.2.	Coccidioidomycosis			
	8.6.3.	Cryptococcosis			
	8.6.4.	Histoplasmosis			
8.7.	Local Antifungals				
	8.7.1.	Antimicrobial Spectrum			
	8.7.2.	Pharmacokinetics and Pharmacodynamics			
	8.7.3.	Therapeutic Uses			
	8.7.4.	Adverse Effects			
	8.7.5.	Presentation and Dosage			
8.8.	Treatment of Skin and Mucous Mycosis				
	8.8.1.	Tinea Capitis			
	8.8.2.	Skin Tinea			
	8.8.3.	Onychomycosis			
8.9.	Liver Toxicity of Systemic Antifungal Agents: Future Challenges				
	8.9.1.	Liver Metabolism of Antifungal Agents			
	8.9.2.	Hepatotoxicity of Antifungal Agents			

Module 9. Antiparasitics II

- 9.1. General Elements
 - 9.1.1. Concept
 - 9.1.2. Origins and Development
- 9.2. Classification
 - 9.2.1. Classification by Chemical Structure
 - 9.2.2. Classification by Action Against Different Parasites
- 9.3. Mechanisms of Action
 - 9.3.1. Action Mechanisms of Antiparasitics
- 9.4. Antiparasitics for Intestinal Parasitism: New Advances
 - 9.4.1. Classification
 - 9.4.2. Mechanism of Action
 - 9.4.3. Antimicrobial Spectrum
 - 9.4.4. Pharmacokinetics and Pharmacodynamics
 - 9.4.5. Therapeutic Uses
 - 9.4.6. Adverse Effects
 - 9.4.7. Presentation and Dosage
- 9.5. Antimalarials: Latest WHO Recommendations
 - 9.5.1. Classification
 - 9.5.2. Mechanism of Action
 - 9.5.3. Antimicrobial Spectrum
 - 9.5.4. Pharmacokinetics and Pharmacodynamics
 - 9.5.5. Therapeutic Uses
 - 9.5.6. Adverse Effects
 - 9.5.7. Presentation and Dosage
- 9.6. Update on Antiparasitics for Filariasis
 - 9.6.1. Classification
 - 9.6.2. Mechanism of Action
 - 9.6.3. Antimicrobial Spectrum
 - 9.6.4. Pharmacokinetics and Pharmacodynamics
 - 9.6.5. Therapeutic Uses
 - 9.6.6. Adverse Effects
 - 9.6.7. Presentation and Dosage

Syllabus | 21 tech

- 9.7. Latest Advances in Antiparasitics for Trypanosomiasis
 - 9.7.1. Classification
 - 9.7.2. Mechanism of Action
 - 9.7.3. Antimicrobial Spectrum
 - 9.7.4. Pharmacokinetics and Pharmacodynamics
 - 9.7.5. Therapeutic Uses
 - 9.7.6. Adverse Effects
 - 9.7.7. Presentation and Dosage
- 9.8. Antiparasitics for Schistosomiasis
 - 9.8.1. Classification
 - 9.8.2. Mechanism of Action
 - 9.8.3. Antimicrobial Spectrum
 - 9.8.4. Pharmacokinetics and Pharmacodynamics
 - 9.8.5. Therapeutic Uses
 - 9.8.6. Adverse Effects
 - 9.8.7. Presentation and Dosage
- 9.9. Antiparasitics for Leishmaniasis
 - 9.9.1. Classification
 - 9.9.2. Mechanism of Action
 - 9.9.3. Antimicrobial Spectrum
 - 9.9.4. Pharmacokinetics and Pharmacodynamics
 - 9.9.5. Therapeutic Uses
 - 9.9.6. Adverse Effects
 - 9.9.7. Presentation and Dosage
- 9.10. Treatment of Other Less Common Parasitic Infections
 - 9.10.1. Dracunculiasis
 - 9.10.2. Hydatid Cyst
 - 9.10.3. Other Tissue Parasites

Module 10. Antibiotic Resistance

- 10.1. Emergence and Development of Antibiotic Resistance
 - 10.1.1. Concept
 - 10.1.2. Classification
 - 10.1.3. Origins and Development
- 10.2. Mechanisms of Antibiotic Resistance: An Update
 - 10.2.1. Mechanisms of Antimicrobial Resistance
 - 10.2.2. New Resistance Mechanisms
- 10.3. Staphylococcal Resistance: Yesterday, Today, and Tomorrow
 - 10.3.1. Evolution of Staphylococcal Resistance
 - 10.3.2. Mechanisms of Staphylococcal Resistance
- 10.4. Resistance of Gram-Positive Germs: Latest Recommendations
 - 10.4.1. Evolution and Resistance of Gram-Positive Germs
 - 10.4.2. Resistance Mechanisms of Gram-Positive Germs
- 10.5. Resistance of Gram-Negative Germs: Current Clinical Implications
 - 10.5.1. Evolution of Gram-Negative Germ Resistance
 - 10.5.2. Mechanisms of Gram-Negative Germs Resistance
- 10.6. Virus Resistance
 - 10.6.1. Evolution of Virus Resistance
 - 10.6.2. Virus Resistance Mechanisms
- 10.7. Fungal Resistance
 - 10.7.1. Evolution of Fungal Resistance
 - 10.7.2. Mechanisms of Fungal Resistance
- 10.8. Parasite Resistance: An Emerging Problem
 - 10.8.1. Evolution of Parasite Resistance
 - 10.8.2. Mechanisms of Parasite Resistance
 - 10.8.3. Resistance to Antimalarials

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- 10.9. New Mechanisms of Antibiotic Resistance and Superbugs
 - 10.9.1. Emergence and Progression of Superbugs
 - 10.9.2. New Resistance Mechanisms of Superbacteria
- 10.10. Antibiotic Resistance Control Mechanisms and Programs
 - 10.10.1. Antibiotic Resistance Control Strategies
 - 10.10.2. Global Program and International Experiences in the Control of Antibiotic Resistance

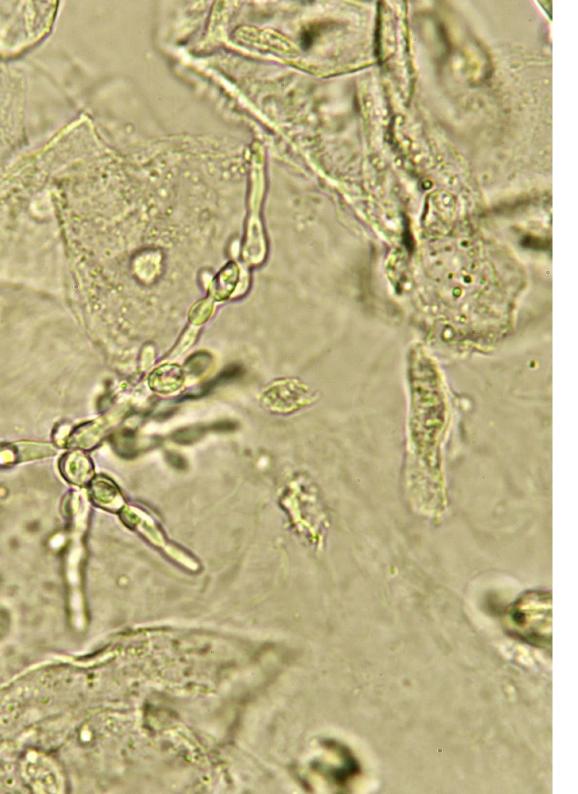
Module 11. Monitoring and Control of Antimicrobial Use

- 11.1. Antibiotic Treatment Duration in the Treatment of Infections: New Role of Biomarkers
 - 11.1.1. Update on the Adequate Duration of the Most Frequent Infections
 - 11.1.2. Clinical and Laboratory Parameters to Determine the Duration of Treatment
- 11.2. Antimicrobial Usage Studies: Most Recent Impacts
 - 11.2.1. The Significance of Antimicrobial Usage Studies
 - 11.2.2. Results of Greater Impact in Recent Years by Antimicrobial Usage Studies
- 11.3. Antibiotic Committees in Hospitals: Their Role in the Future
 - 11.3.1. Structure and Operation
 - 11.3.2. Objectives
 - 11.3.3. Activities
 - 11.3.4. Impacts
- 11.4. Antimicrobial Use Policies: Current Impact on Antimicrobial Use
 - 11.4.1. Concepts
 - 11.4.2. Types of Policies
 - 11.4.3. Objectives
 - 11.4.4. Impacts
- 11.5. Pharmacotherapeutic Committees: Practical Importance
 - 11.5.1. Structure and Function
 - 11.5.2. Objectives
 - 11.5.3. Activities
 - 11.5.4. Impacts

- 11.6. Infectious Disease Specialists and their Role in the Rational Use of Antimicrobials
 - 11.6.1. Functions and Activities of Infectious Disease Specialists to Promote and Encourage the Rational Use of Antimicrobials
- 11.7. Impact of Training and Professional Development on Antimicrobial Usage
 - 11.7.1. Importance of Training and Professional Development
 - 11.7.2. Types
 - 11.7.3. Impacts
- 11.8. Hospital Strategies for Rational Antimicrobial Use: What the Evidence Says
 - 11.8.1. Hospital Strategies for the Control of the Rational Use of Antimicrobials
 - 11.8.2. Impacts
- 11.9. Scientific Research for the Future Control and Monitoring of Antibiotic Therapy in Patients with Sepsis
 - 11.9.1. Search for New Parameters and Markers for Monitoring and Control of Antibiotic Therapeutics

Module 12. Antibiotics and Antimicrobial Treatments of the Future

- 12.1. Research, Approval, and Commercialization of New Antibiotics
 - 12.1.1. Antimicrobial Research
 - 12.1.2. Antimicrobial Approval Process
 - 12.1.3. Antimicrobial Marketing and Large Pharmaceutical Companies
- 12.2. Ongoing Clinical Trials for the Approval of New Antibiotics
 - 12.2.1. New Clinical Trials on Antimicrobials
- 12.3. Old Antibiotics with New Uses
 - 12.3.1. The Role of Old Antibiotics with New Uses
 - 12 3 2 Antimicrobial Withdrawal
 - 12.3.3. Chemical Alterations of Old Antimicrobials
- 12.4. Treatment Goals and New Ways to Fight Infections: What's New in Research
 - 12.4.1. New Treatment Goals
 - 12.4.2. New Ways to Treat Sepsis



Syllabus | 23 tech

- 12.5. Monoclonal Antibodies in Infections: Present and Future
 - 12.5.1. Origin and Emergence of Monoclonal Antibodies
 - 12.5.2. Classification
 - 12.5.3. Clinical Uses
 - 12.5.4. Impact Results in Infectious Diseases
- 12.6. Other Drugs to Regulate and Stimulate Immune Response against Infection
 - 12.6.1. Drugs to Regulate and Control the Immune Response
- 12.7. Futuristic Antibiotics
 - 12.7.1. The Future of Antimicrobials
 - 12.7.2. Antibiotics of the Future



Explore antibiotic resistance in depth with a program that covers everything from the fundamentals to the most innovative strategies in diagnosis, treatment, and control. All with a practical, evidence-based approach"





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General Objectives

- Update knowledge in Electrotherapy by providing rehabilitation professionals with the latest scientific evidence and technological advances in the field
- Develop a comprehensive patient-centered approach, promoting strategies that improve care quality and optimize therapeutic outcomes
- Enhance evaluation and diagnostic skills to facilitate accurate identification of pathologies and selection of the most appropriate treatment
- Optimize the use of new technologies applied to rehabilitation, encouraging their effective implementation in clinical practice
- Promote excellence in care through the refinement of techniques, protocols, and methodologies based on international standards
- Foster multidisciplinary interaction by encouraging collaborative work with other specialists for a comprehensive and effective approach to patients with Antibiotic Resistance



Specialized readings will allow you to further deepen the rigorous information provided in this syllabus"



Specific Objectives

Module 1. Overview of Microbiology

- Understand the structure, function, and classification of pathogenic microorganisms
- Analyze the interaction between microorganisms and the human immune system
- · Identify methods for culturing, detecting, and diagnosing microbiological agents
- Explore the role of the microbiota in health and disease

Module 2. Introduction to Pharmacology and Treatment

- Analyze the mechanisms of action of antimicrobial drugs
- Identify interactions, adverse effects, and contraindications of treatments
- Evaluate criteria for the appropriate selection of antimicrobial therapies

Module 3. Antimicrobials: General Aspects

- Classify the different types of antimicrobials and their clinical applications
- Study the toxicity and side effects associated with their use
- Understand the relationship between spectrum of action and therapeutic efficacy
- Explore the mechanisms of action of the main antimicrobials

Module 4. Antivirals

- Analyze the structure and life cycle of viruses as a basis for their treatment
- Identify the main antiviral drugs and their mechanisms of action
- Evaluate the efficacy of antivirals in emerging and chronic infections
- Understand the evolution of viral resistance and its therapeutic implications

Module 5. Antibiotics I

- Understand the different groups of antibiotics and their classification
- Analyze the mechanisms of action of beta-lactam antibiotics
- Identify clinical indications and the spectrum of activity of the main antibiotics
- Evaluate adverse reactions and contraindications of their use

Module 6. Antibiotics II

- Analyze the clinical application of quinolones and tetracyclines
- Identify strategies for the rational use of antibiotics in severe infections
- Evaluate the most effective therapeutic combinations in resistant infections

Module 7. Antibiotics III

- Examine the latest-generation antibiotics and their clinical applications
- Study the impact of prolonged antibiotic use on the microbiota
- Analyze clinical cases of multidrug-resistant infections and their therapeutic management
- Evaluate new strategies to optimize the efficacy of existing antibiotics

Module 8. Antifungals

- Get to know the main antifungals and their mechanisms of action
- Identify the therapeutic indications in superficial and systemic fungal infections
- Evaluate drug-drug interactions and adverse effects of antifungals
- Analyze trends in the development of new antifungal therapies

Module 9. Antiparasitics II

- Classify the different types of antiparasitic agents according to their spectrum of action
- Understand the mechanisms of action and resistance of antiparasitic drugs
- Evaluate therapeutic strategies for prevalent parasitic diseases
- Analyze the global impact of resistance to antiparasitic agents

Module 10. Antibiotic Resistance

- Study the molecular mechanisms leading to antibiotic resistance
- Analyze the impact of Microbial Resistance on global public health
- Evaluate prevention and control strategies in hospital and community settings
- Explore the development of new therapeutic alternatives against superbacteria

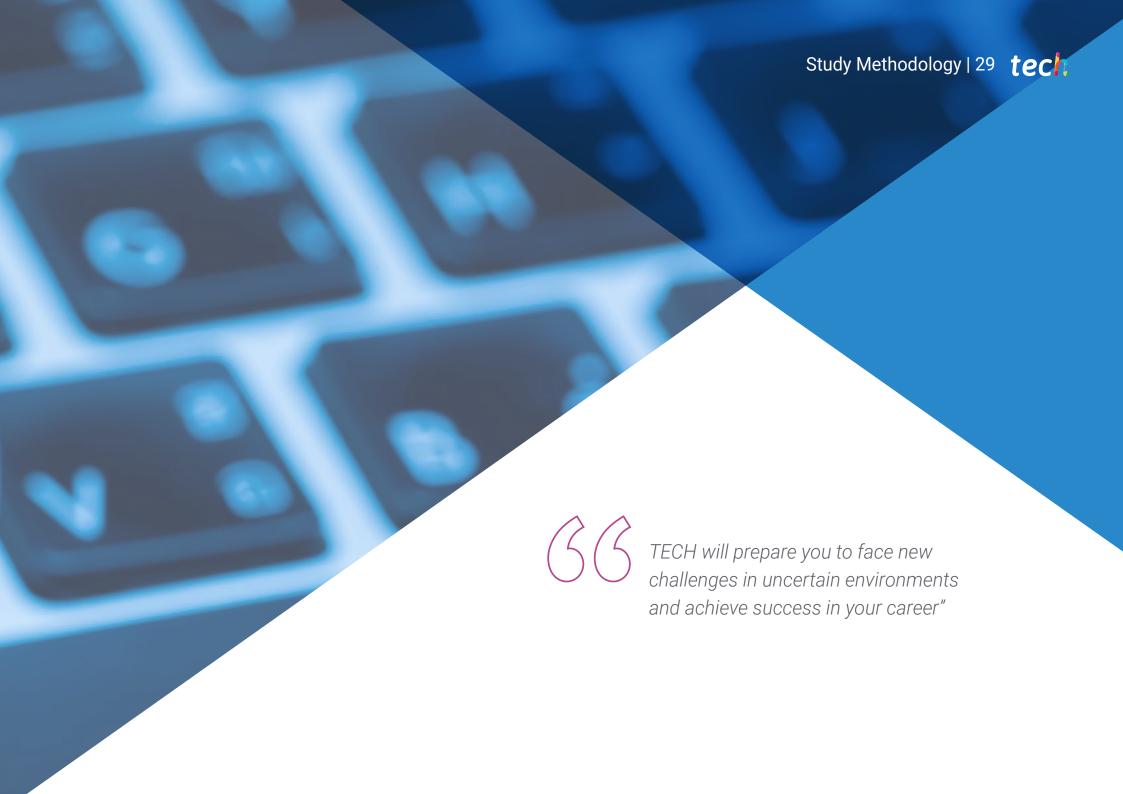
Module 11. Monitoring and Control of Antimicrobial Use

- Understand the importance of epidemiological surveillance in the use of antimicrobials
- Analyze protocols for optimizing antibiotic treatment
- Evaluate strategies to reduce unnecessary use of antimicrobials in clinical practice
- Explore technological tools for monitoring antimicrobial therapy

Module 12. Antibiotics and Antimicrobial Treatments of the Future

- Investigate new therapeutic approaches in antibiotic development
- Analyze the potential of phage therapy and other emerging alternatives
- Evaluate the role of artificial intelligence in optimizing antimicrobial treatments
- Explore trends in pharmacological innovation to combat bacterial resistance



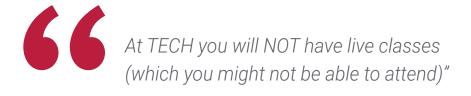


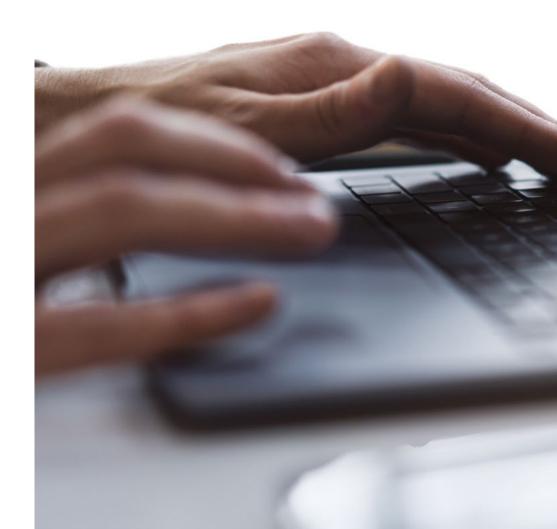
The student: the priority of all TECH programs

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"

tech 32 | Study Methodology

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.





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.

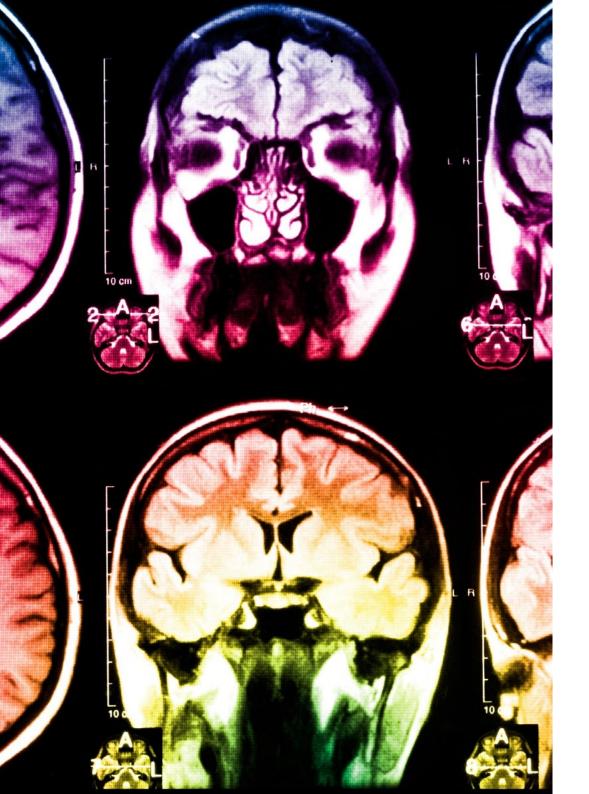


The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

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.

Case Studies

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



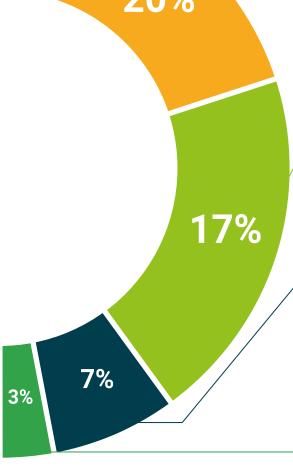
There is scientific evidence suggesting that observing third-party experts can be useful.

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.









International Guest Director

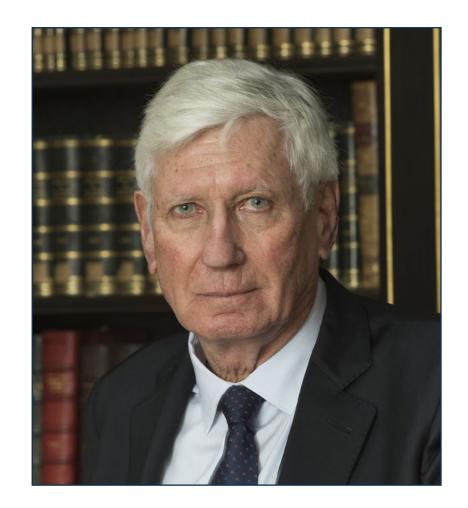
Dr. Dominique Franco is a specialist in liver surgery and treatment of hepatocellular carcinoma, with an extensive background in the field of regenerative medicine. Throughout his career, he has focused his research on cell therapy for liver diseases and organ bioconstruction, areas in which he has made innovative contributions.

His work focuses on developing **new treatment techniques** that not only seek to improve the effectiveness of surgical interventions, but also to optimize the quality of life of patients.

He has held leadership roles in several prestigious institutions. He was **Head of the Department of Liver Surgery and Transplantation at the Hôpital Antoine-Béclère**, where he participated in medical milestones such as the first liver transplant performed in Europe. His extensive experience in advanced surgery and transplantation has allowed him to acquire a deep knowledge in the management of complex liver pathologies, becoming a reference in the medical field both nationally and internationally. In addition, he has been **Director Emeritus of Digestive Surgery at the University Paris-Sud**, where he has contributed to the training of new generations of surgeons.

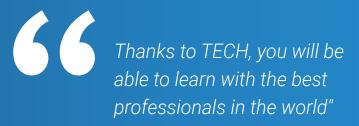
Internationally, he is recognized for his contributions to the development of Regenerative Medicine. In 2014, he founded CellSpace, an association dedicated to promoting **tissue and organ bioengineering** in France, with the aim of bringing together researchers from different disciplines to advance this field.

He has published more than 280 scientific articles in international journals, addressing topics such as Liver Surgery, hepatocellular carcinoma and Regenerative Medicine. In addition, he is a member of the U-1193 research unit at Inserm and a consultant at the Pasteur Institute, where he continues his work as a consultant on cutting-edge projects, contributing to expand the boundaries of medical knowledge in his area of expertise.



Dr. Franco, Dominique

- Academic Director of the Pasteur Institute, Paris, France
- Vice President Health Cluster for Physician Competitiveness
- Head of the Digestive Surgery Department at Antoine-Béclère Hospital (APHP)
- Director Emeritus of Digestive Surgery at the University Paris-Sud
- Founder of CellSpace
- Member of the research unit U-1193 of Inserm
- President of the French National Academy of Surgery







tech 44 | Certificate

This private qualification will allow you to obtain a **Master's Degree in Advances in Antibiotic Therapy and Antibiotic Resistance** 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.

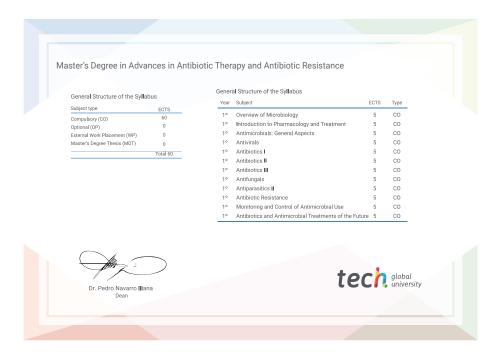
Title: Master's Degree in Advances in Antibiotic Therapy and Antibiotic Resistance

Modality: online

Duration: 12 months

Accreditation: 60 ECTS





^{*}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.

health confidence people
leducation information tutors
guarantee accreditation teaching
institutions technology learning



Master's Degree

Advances in Antibiotic Therapy and Antibiotic Resistance

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Acreditation: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

