Postgraduate Diploma

Microbiological and Clinical Diagnosis of Infectious Diseases for Pharmacists

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Postgraduate Diploma
Microbiological and Clinical Diagnosis of Infectious Diseases Infectious

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

Website: **www.techtitute.com/us/pharmacy/postgraduate-diploma/postgraduate-diploma-microbiological-clinical-diagnosis-infectious-diseases-pharmacists**

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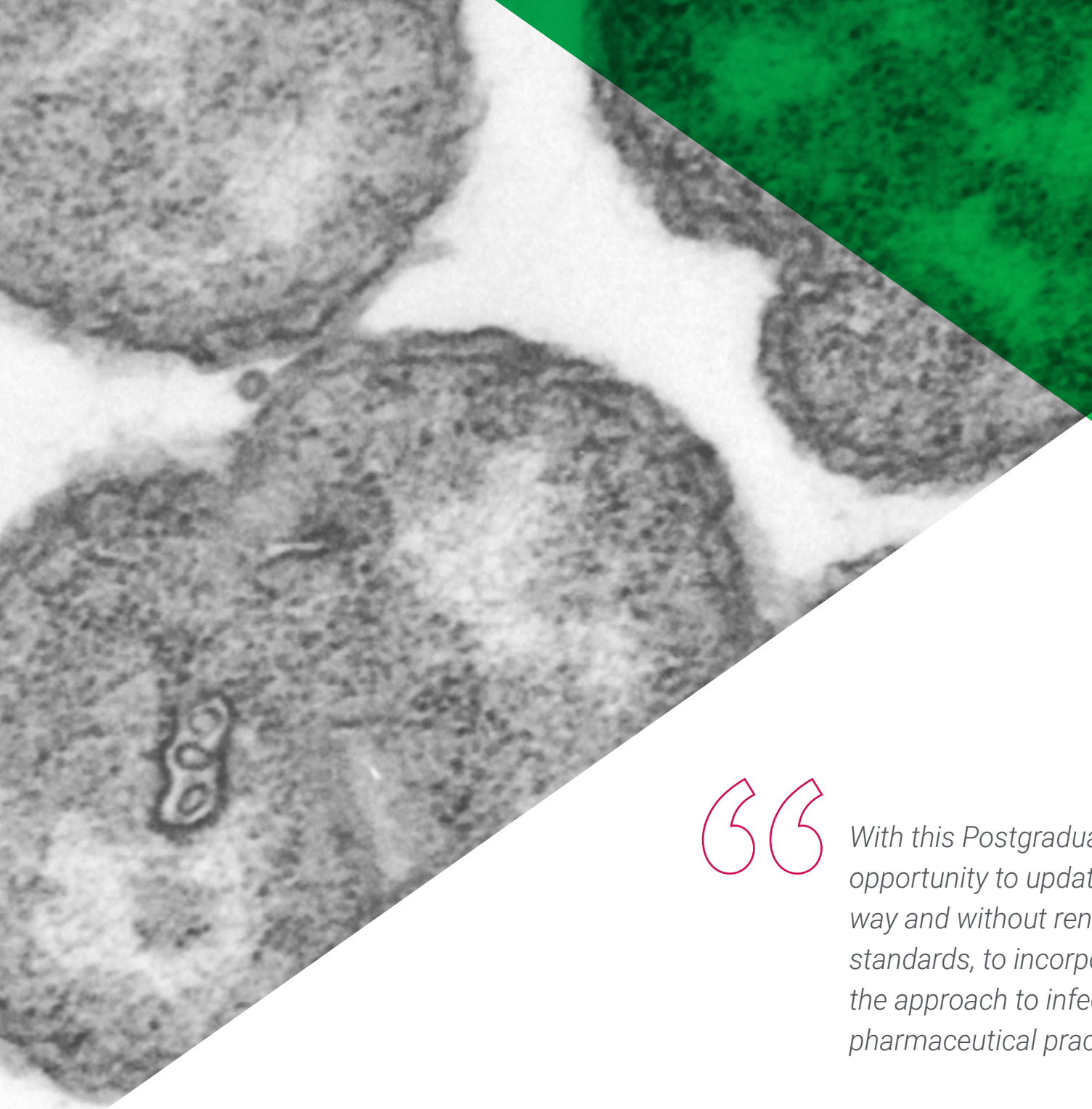
01

Introduction

TECH has designed this complete educational program that aims to expand the knowledge of pharmacy professionals in everything related to Microbiological and Clinical Diagnosis of Infectious Diseases. All this, with experts, and professionals, with a high reputation and an excellent curriculum. You will learn the latest techniques and developments in the field and develop your knowledge and skills in infectious diseases from a pharmacological point of view. A unique opportunity to specialise in a high-demand professional field.



With this Postgraduate Diploma, you have the opportunity to update your knowledge in a comfortable way and without renouncing to the highest scientific standards, to incorporate the latest advances in the approach to infectious pathology in your daily pharmaceutical practice".

Infectious diseases remain the leading cause of mortality and disability (loss of productive life years) 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 will have two simultaneous fronts: infectious diseases and chronic non-communicable diseases.

Among the 17.3 million people who died from infections in 2016, the most frequent causes of death were lower respiratory infections (3.7 million), malaria (2.2 million), tuberculosis (1.3 million), diarrhea (1.4 million), and HIV/AIDS infection (1.1 million). The most important factors to consider in relation to infectious diseases are demography and human behavior, as well as industrial, technological and economic development and variations in land use, intercontinental travel and trade, climatic changes, microbial adaptation itself and, finally, the disappearance or reduction of some effective public health measures.

These factors, interacting with each other, have meant that we should not consider any part of the planet reasonably isolated from the rest, nor the appearance, reappearance or dissemination of imported or apparently eradicated infectious diseases in our environment to be impossible.

The complex international epidemiological situation so far this century, exemplified by the deliberate release of *Bacillus anthracis* spores, the emergence of West Nile virus, the epidemic of Severe Acute Respiratory Syndrome (SARS), the zoonotic spread of smallpox, the threat of pandemic influenza, the Ebola epidemic in Africa, the cases of yellow fever in Angola, dengue fever and cholera, the emergence of new arbovirosis 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 multi-resistant bacteria, highlight the unprecedented need to improve the process of training and improvement of human capital.

This **Postgraduate Diploma in Microbiological and Clinical Diagnosis of Infectious Diseases for Pharmacists** contains the most complete and up-to-date program on the market. The most important features of the program include:

- The development of clinical cases presented by experts in Microbiological and Clinical Diagnosis of Infectious Diseases.
- 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.
- New developments in Microbiological and Clinical Diagnosis of Infectious Diseases
- 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

Seize the moment and gain up-to-date knowledge on the management of coronavirus infections."

This Postgraduate Diploma is the best investment you can make in a specialization for two reasons: you will obtain a Postgraduate Diploma from TECH, and you will acquire the best and most up-to-date specialization in Microbiological and Clinical Diagnosis of Infectious Diseases from a pharmaceutical point of view"

You are in front of the best of the educational panorama in viral infections that will catapult you and turn you into a successful pharmacist.

Don't miss the opportunity to learn about advances in the treatment of infections and incorporate them into your daily practice.

Its faculty is made up of prestigious and renowned professionals, with a long history in health care, teaching and research, who have worked in many countries on several continents, developing a professional and teaching experience that they deliver in an extraordinary way in this program.

The methodological design of this Postgraduate Diploma, developed by a multidisciplinary team of e-learning experts, integrates the latest advances in educational technology for the creation of numerous educational multimedia tools that allow the professional, based primarily problem the problem-based learning method, to address real problems in their daily clinical practice, which will allow them to advance by acquiring knowledge and developing skills that will impact their future professional work.

It should be noted in this program that all of the contents generated, as well as the videos, self-evaluations, clinical cases and exams have been thoroughly reviewed, updated, and integrated by the teachers and the team of experts that make up the working group, to facilitate the learning process with a step-by-step approach in order to achieve the teaching program objectives.

02

Objectives

The fundamental purpose of the educational program is to specialize and improve the pharmacist to achieve a deep theoretical mastery of the latest and most current scientific knowledge in the area of clinical infectious diseases, as well as the development of skills that allow them to approach the complex process of health and infectious diseases in individuals and communities with more comfort and safety.

This refresher program will generate a sense of confidence in pharmacy practice, which will help you grow both personally and professionally"

General Objectives

- Update or deepen 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 the medical attention and the overall health of patients with infectious diseases based on integral care, the application of the epidemiological clinical method and the correct use of antimicrobials in correspondence with the most up to date scientific evidence.

Improve your work by taking advantage of the specialization offered with the Postgraduate Diploma in Microbiological and Clinical Diagnosis of Infectious Diseases"

Specific Objectives

Module 1. Microbiological Diagnosis and Other Examinations for Infectious Diseases

- Address the important role of microbiology and the infectologist in the control of infectious diseases.
- Explain the pathogenic mechanisms and the most frequent neoplasms associated with infectious agents.

Module 2. The Immune System in Infections in the Immunosuppressed Host

- Describe the clinical, diagnostic and treatment features of sexually transmitted infections.
- Identify the main germs involved in foodborne infections and their clinical significance.
- Address in detail and depth the most up-to-date scientific evidence in the vast world of hepatitis
- Explain the pathophysiological and pathogenic interrelationships between tuberculosis co-infection and HIV/AIDS infection.

Module 3. General Elements of Infectious Diseases

- To substantiate the importance of the control of viral haemorrhagic diseases and the detailed study of the most frequent and deadly diseases for the reduction of morbidity and mortality worldwide.
- Explain the clinical, diagnostic and treatment elements of rare or uncommon infectious diseases

Module 4. The Role of Infectologists in Health Services

- Emphasise the future challenges of infectious diseases in reducing infectious morbidity and mortality.

04

Structure and Content

The teaching program has been created by a group of professors and medical professionals from various medical specialties, with extensive research and teaching experience in several countries in Africa, Central and South America, interested in integrating the latest and most up-to-date scientific knowledge of clinical infectious diseases and antimicrobial therapeutics, to ensure specialization and professional development to improve the daily clinical practice of professionals who care for patients or populations with infectious diseases.

This Postgraduate Diploma in Microbiological and Clinical Diagnosis of Infectious Diseases contains the most complete and up to date scientific program on the market"

Module 1. Microbiological Diagnosis and Other Examinations for Infectious Diseases

1.1. Organization, Structure and Functioning of the Microbiology Laboratory
- 1.1.1. Organization and Structure of the Microbiology Laboratory
- 1.1.2. Functioning of a Microbiology Laboratory

1.2. Principles of the Use of Microbiological Examinations in Patients with Infectious Pathologies The Process of Collecting Specimens
- 1.2.1. The Role of Microbiological Studies in the Diagnosis of Infectious Diseases
- 1.2.2. The Microbiological Sampling Process: Preanalytical, Analytical, and Postanalytical Stages.
- 1.2.3. Sampling Requirements for the Main Microbiological Studies used in Daily Clinical Practice: Blood, Urine, Stool, Sputum

1.3. Virological Studies
- 1.3.1. Types of Virus and Their General Characteristics
- 1.3.2. General Characteristics of Virological Studies
- 1.3.3. Viral Culture
- 1.3.4. Viral Genome Studies
- 1.3.5. Studies of Antigens and Antibodies Against the Virus

1.4. Bacteriological Studies
- 1.4.1. Classification of Bacteria
- 1.4.2. General Characteristics of Bacteriological Studies
- 1.4.3. Stains for Bacterial Identification
- 1.4.4. The Study of Bacterial Antigens
- 1.4.5. Cultivation Methods: General and Specific
- 1.4.6. Bacteria That Need Special Study Methods

1.5. Mycological Studies
- 1.5.1. Classification of Fungi
- 1.5.2. Main Mycological Studies

1.6. Parasitological Studies
- 1.6.1. Classification of Parasites
- 1.6.2. Studies for Protozoa
- 1.6.3. Studies for Helminths

1.7. Appropriate Interpretation of Microbiological Studies
- 1.7.1. The Microbiological Clinical Interrelationship for the Interpretation of Microbiological Studies

1.8. Interpreted Reading of the Antibiogram
- 1.8.1. Traditional Interpretation of the Antibiogram With Relation to the Sensitivity and Resistance to Antimicrobials
- 1.8.2. Interpreted Reading of the Antibiogram: Current Paradigm

1.9. Use of Microbial Map of an Institution
- 1.9.1. What is a Microbial Map of an Institution?
- 1.9.2. Clinical Application of the Microbial Map

1.10. Biosecurity
- 1.10.1. Conceptual Definitions of Biosafety
- 1.10.2. Importance of Biosafety for Health Services
- 1.10.3. Universal Measures of Precaution
- 1.10.4. Manage the Biological Waste in a Healthcare Institution

1.11. The Clinical Laboratory in the Study of Infectious Diseases
- 1.11.1. Reactants of the Acute Phase
- 1.11.2. Studies of Liver Function, Internal Environment, Coagulation and Renal Function in Sepsis
- 1.11.3. Study of Inflammatory Liquids in the Diagnosis of Infections
- 1.11.4. Biomarkers Usefulness in Clinical Practice

1.12. Imaging Studies for the Diagnosis of Infectious Pathology
- 1.12.1. The Role of Imaging Studies in the Diagnosis of Infectious Diseases
- 1.12.2. The Role of Ultrasound in the Integral Evaluation of a Patient with Sepsis

1.13. The Role of Genetic and Immunological Studies
- 1.13.1. Studies of Genetic Illnesses and Their Predisposition of Infectious Diseases

1.13.2. Immunological Studies on Immunosuppressed Patients

1.14. Usefulness of Pathological Anatomy Studies

1.14.1. Alterations in Cytological Studies According to the Type of the Biological Agent

1.14.2. Necropsy and Its Importance in Infectious Mortality

1.15. Assessment of the Severity of Infectious Diseases

1.15.1. Prognosis Scales in the Care of Patients with Infectious Pathologies Based on Laboratory Studies and Clinical Elements

1.15.2. SOFA Score Usefulness in the Current Day: Components of SOFA, What it Measures Usefulness in the Assessment of a Patient

1.15.3. Main Complications in Infectious Diseases

1.16. Worldwide Campaign Against Sepsis

1.16.1. Emergence and Evolution

1.16.2. Objectives

1.16.3. Recommendations and Impact

1.17. Bioterrorism

1.17.1. Principle Infectious Agents Used in Bioterrorism

1.17.2. International Regulations on the Management of Biological Samples

Module 2. The Immune System in Infections in the Immunosuppressed Host

2.1. Structure and Development of the Immune System

2.1.1. Composition and Development of the Immune System

2.1.2. Immune System Organs

2.1.3. Immune System Cells

2.1.4. Chemical Mediators in the Immune System

2.2. The Immune Response to Viral and Bacterial Infections

2.2.1. Main Cells Implicated in the Immune Response to Viruses and Bacteria

2.2.2. Main Chemical Mediators

2.3. The Immune Response to Mycotic and Parasitic Infections

2.3.1. Immune Response Against Filamentous and Yeast Fungi

2.3.2. Immune Response Against Protozoas

2.3.3. Immune Response Against Helminths

2.4. Most Common Clinical Manifestations of Immunosuppression

2.4.1. Types of Immunosuppression

2.4.2. Clinical Manifestations According to the Infectious Agent

2.4.3. Frequent Infections According to the Type of Immunosuppression

2.4.4. Common Infections in Immunosuppressed Patients According to the Organ System Affected

2.5. The Fever Syndrome in Neutropenic Patients

2.5.1. Most Common Clinical Manifestations

2.5.2. Most Diagnosed Infectious Agents

2.5.3. Most-Used Complementary Studies in the Integral Evaluation of a Neutropenic Fever Patient

2.5.4. Therapeutic Recommendations

2.6. Management of an Immunosuppressed Patient with Sepsis

2.6.1. Evaluation of Diagnosis, Prognosis and Treatment According to the Latest International Recommendations Endorsed by Scientific Evidence

2.7. Immunomodulatory and Immunosuppressive Therapy

2.7.1. Immunomodulators and Their Clinical Use

2.7.2. Immunosuppressors and Their Relation to Sepsis

Module 3. General Elements of Infectious Diseases

3.1. General and Basic Concepts of the Infectious Health-Illness Process

3.1.1. The Stages of the Infectious Process

3.1.2. The Systemic Inflammatory Response

3.1.3. Sepsis

3.1.4. Complications of Sepsis

3.2. Most Common Signs and Symptoms in Patients with Infectious Diseases

3.2.1. Local Signs and Symptoms of Sepsis

3.2.2. Systemic Signs and Symptoms of Sepsis

3.3. Main Infectious Syndromes

3.3.1. Systemic Syndromes

3.3.2. Local Syndromes

3.4. Fever of Unknown Origin (FUO)

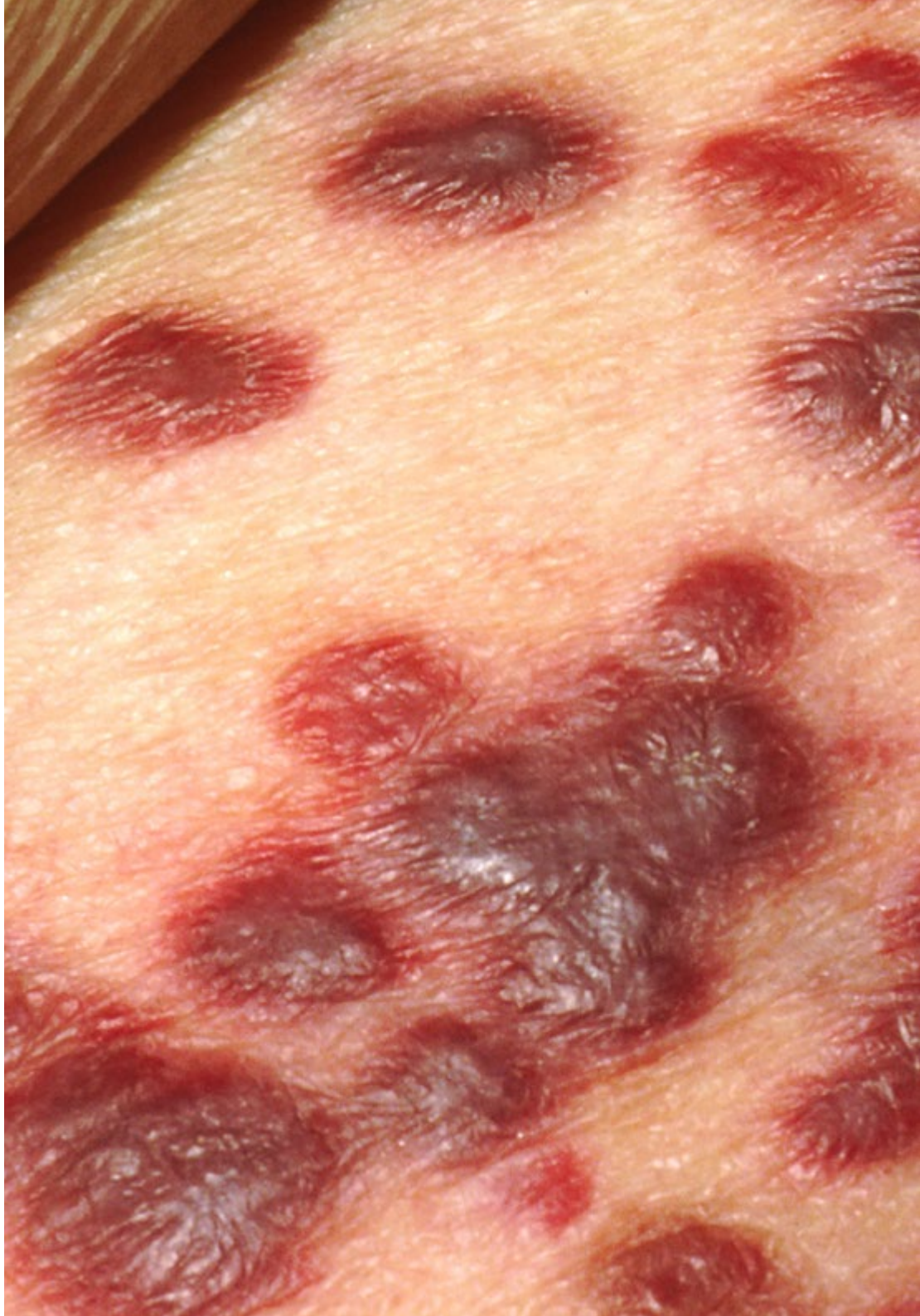
3.4.1. Classis FUO

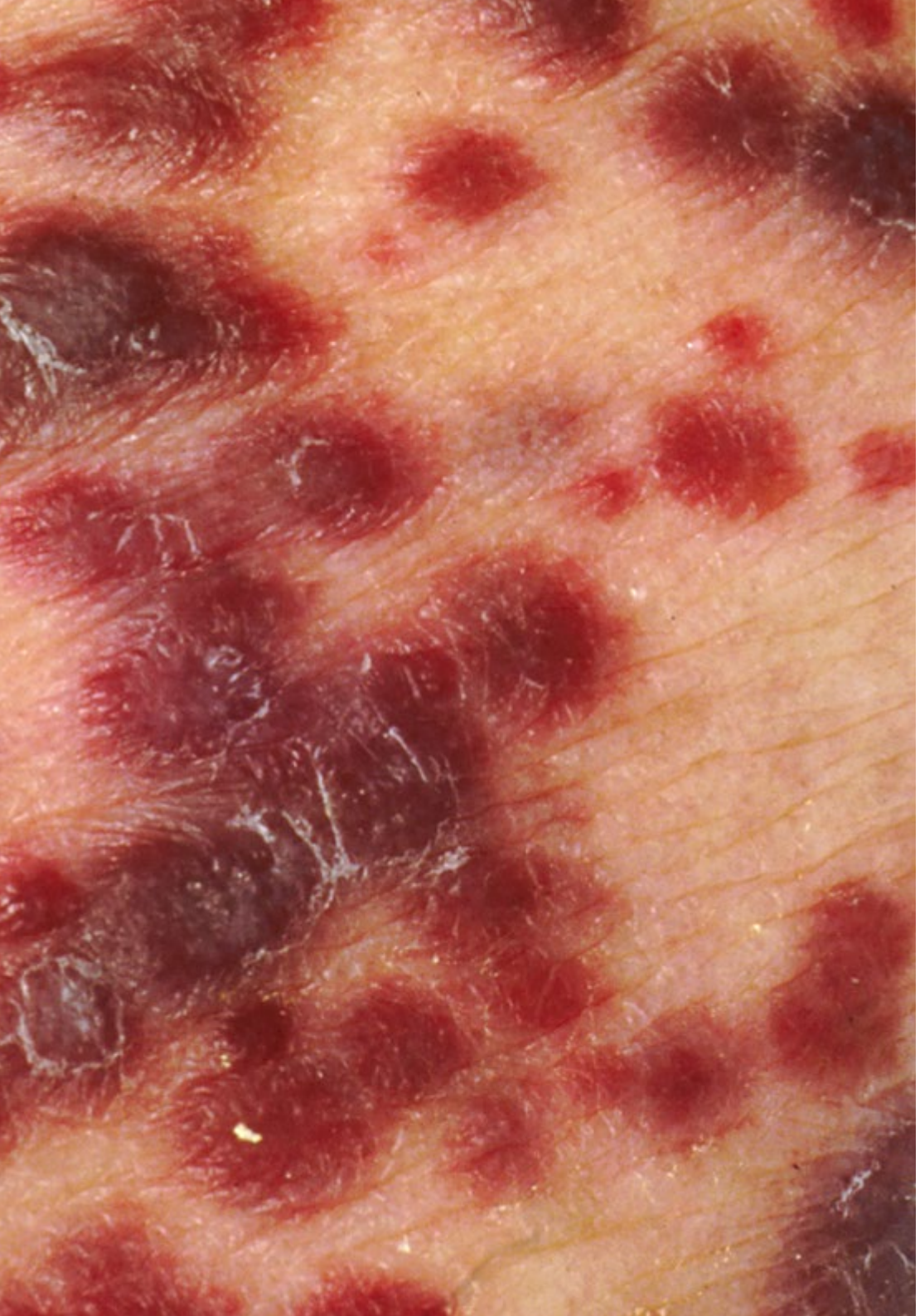
3.4.2. Nosocomial FUO

3.4.3. FUO in an Immunosuppressed Patient
3.4.4. FUO in HIV Infections
3.5. Fever and Rash
3.5.1. Types of Rashes
3.5.2. Main Infectious Agents Which Produce Rashes
3.6. Fever and Adenomegaly
3.6.1. Characteristics of Infectious Adenomegalies
3.6.2. Infections and Localized Adenomegalies
3.6.3. Infections and Generalized Adenomegalies
3.7. Sexually Transmitted Infections (STI)
3.7.1. Epidemiology of the STI
3.7.2. Main Agents in Sexual Transmission
3.7.3. Syndromic Approach to STIs
3.8. Septic Shock
3.8.1. Epidemiology
3.8.2. Pathophysiology
3.8.3. Clinical Manifestations and Differential Masks from the Other Types of Shock
3.8.4. Diagnosis and Evaluation of the Severity and Complications
3.8.5. Therapeutic Behavior

Module 4. The Role of Infectologists in Health Services

4.1. Infectology and its Importance in Medical Care Within Any Specialist Field
4.1.1. The Universal Nature of Infectious Pathology in Medical Specialties
4.1.2. Mastering Antibiotic Treatment
4.2. Skills and Abilities of an Infectologist
4.2.1. Skills of an Infectologist
4.2.2. Abilities of an Infectologist
4.3. The Role of Infectologists in Health Teams
4.3.1. Functions of Infectologists in Health Teams in the Different Levels of the Health System
4.4. Infectious Disease Consultation
4.4.1. Functions of an Infectologist's Consultation
4.4.2. Pathologies to be Consulted
4.5. Scientific Update of the Infectologist's Medical Knowledge and the Future Challenges of





Infectology

4.5.1. Self-Training

4.5.2. Training and Professional Achievement

4.5.3. Future Challenges for Infectology: The Emergence of New Diseases Antimicrobial Resistance The Development of Vaccines and Antibiotics

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

05

Methodology

This 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:

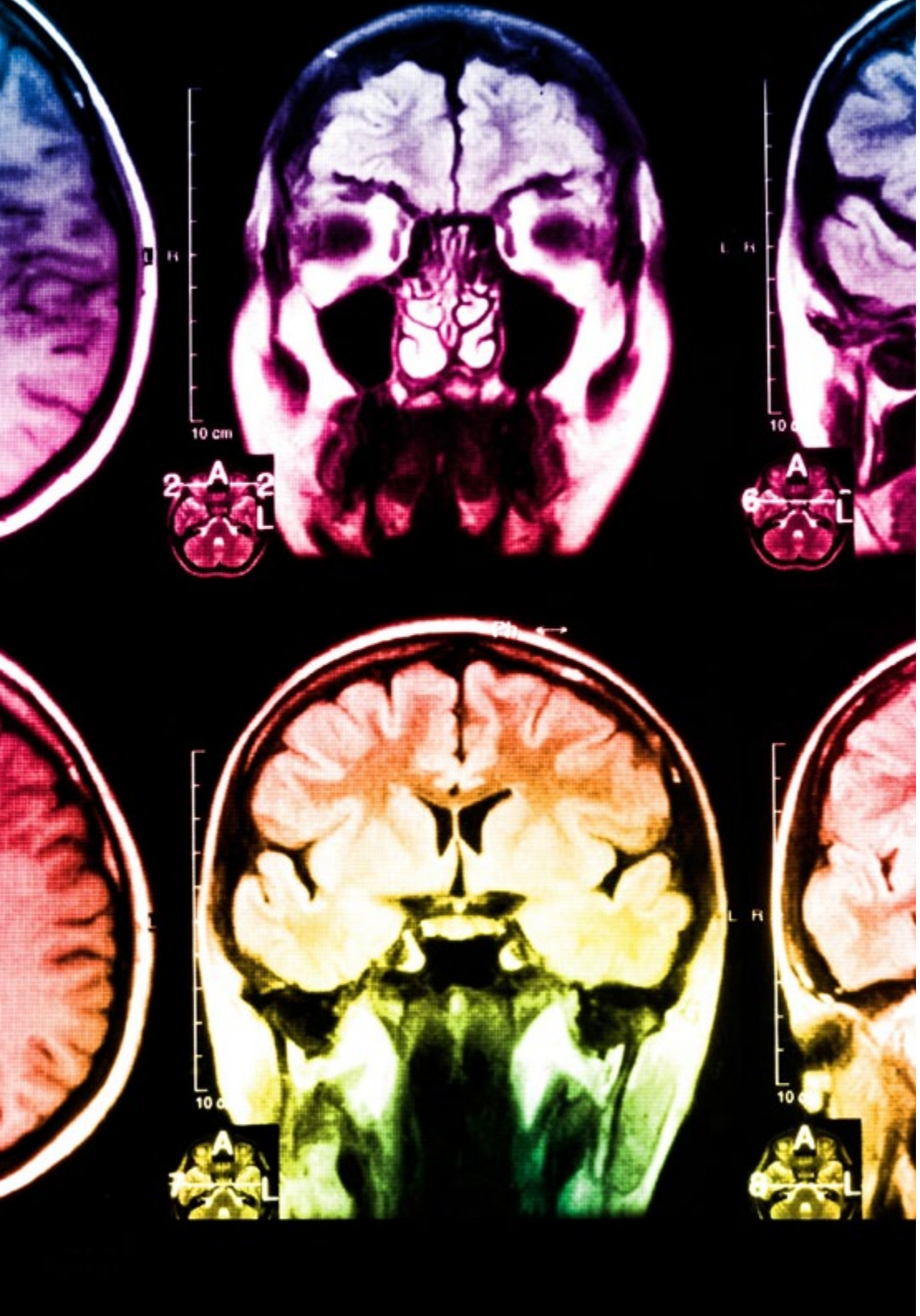
1. Pharmacists who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts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

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

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 prepared with unprecedented success in all clinical specialties, regardless of the surgical load. This educational 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 educational development is highly specific and accurate.

These contents are then adapted in 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, students can watch them as many times as they want.

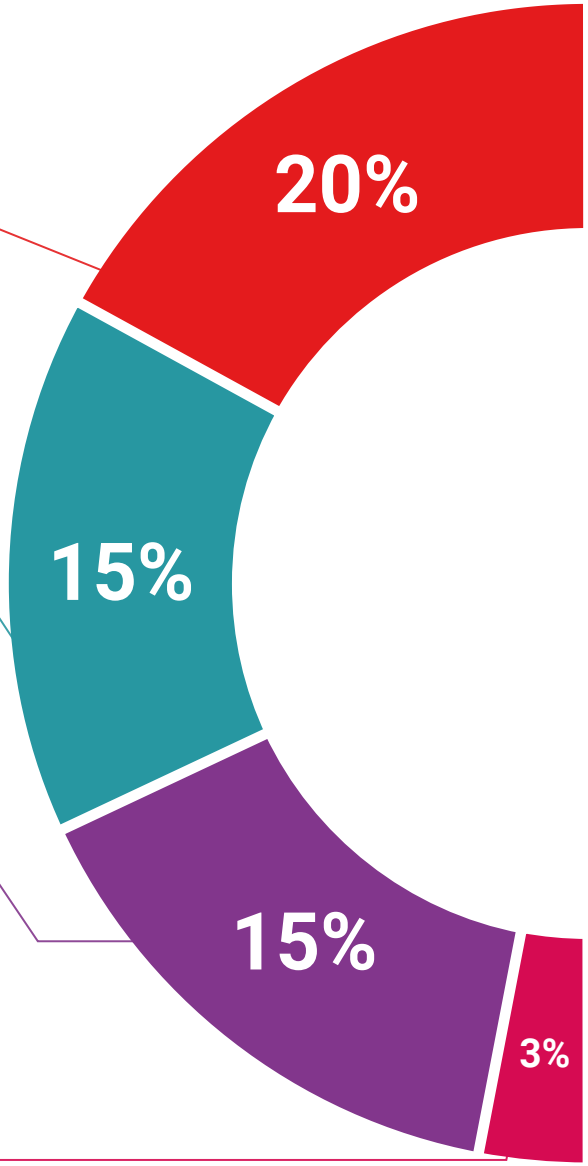
Interactive Summaries

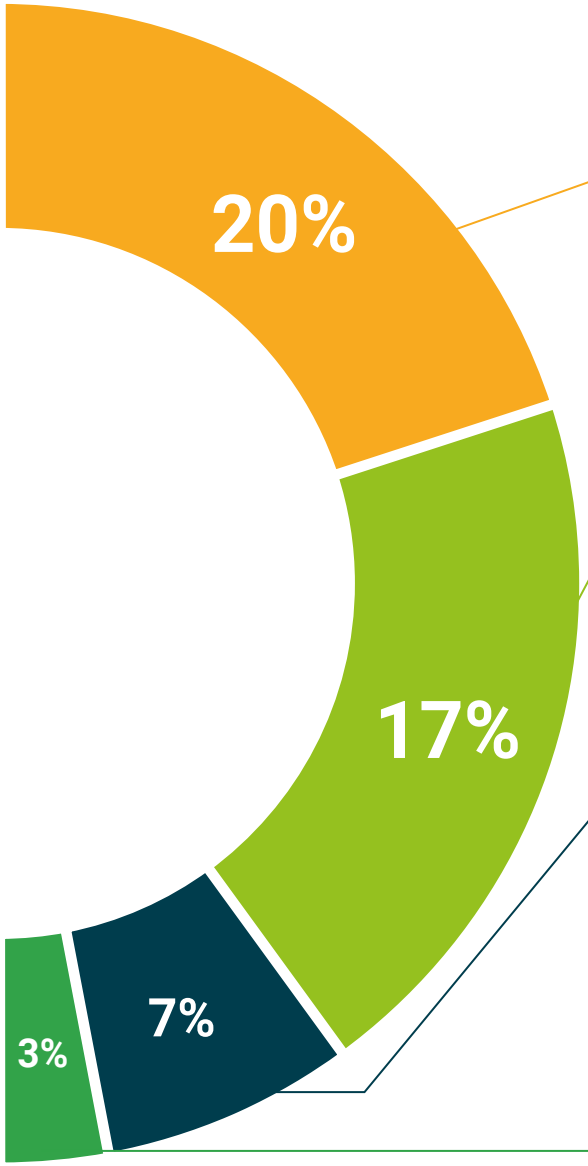
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Additional Reading

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





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, 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 assess and re-assess 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 Diploma in Microbiological and Clinical Diagnosis of Infectious Diseases for Pharmacists guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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 Diploma in Microbiological and Clinical Diagnosis of Infectious Diseases for Pharmacists** contains the most complete and up-to-date 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***.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Diploma in Microbiological and Clinical Diagnosis of Infectious Diseases**

Official Nº of Hours: **600 hours.**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Por haber superado con éxito y acreditado el programa de

EXPERTO UNIVERSITARIO

en

Diagnóstico Microbiológico y Clínico de las Enfermedades Infecciosas

Se trata de un título propio de esta Universidad con una duración de 600 horas, con fecha de inicio dd/mm/aaaa y fecha de finalización dd/mm/aaaa.

TECH es una Institución Particular de Educación Superior reconocida por la Secretaría de Educación Pública a partir del 28 de junio de 2018.

A 17 de junio de 2020

Mtra.Tere Guevara Navarro
Rectora

Este título propio se deberá acompañar siempre del título universitario habilitante expedido por la autoridad competente para ejercer profesionalmente en cada país. código único TECH: AFWDR23S techtitute.com/titulos

*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.

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