

Internship Program

Clinical Infectious Diseases and Advanced Antibiotic Therapeutics



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01 Introduction

Since the latest scientific and technological advances in medicine, Clinical Infectious Diseases has undergone a considerable evolution. This is evidenced by the new diagnostic and treatment strategies that are becoming relevant for this branch of healthcare. These innovations represent great challenges for specialists who continually demand educational programs to increase their practical knowledge and incorporate these innovations into their daily professional activity. TECH, aware of this context, has developed a program that is completely face-to-face, intensive and direct, where the graduate will apply the latest methodologies on real patients, under the highest academic rigor. This internship, lasting 3 weeks, will link the infectologist with a first level hospital center and with experts of great prestige in health care.



Enroll in this Internship Program and get up-to-date on the main innovations in Clinical Infectious Diseases against virus-acquired, bacterial and chronic conditions"





In recent decades, research related to Clinical Infectious Diseases has renewed the diagnostic and therapeutic strategies that, until recently, were used in this branch of health care. An example of this is the development of pre- and post-exposure prophylaxis drugs (PrEP and PEP) against the Human Immunodeficiency Virus (HIV), a treatment that prevents the transmission of the disease and is frequently used in at-risk populations. In addition, medical science has investigated antibiotic resistance and, based on the latest findings, has developed alternative care protocols. The correct execution of these treatments and methods of clinical evaluation require a high level of mastery of the most modern health considerations regarding their use, as well as optimal practical skills for their application.

However, health professionals do not have programs focused on the development of these competencies from the most direct point of view. In order to solve this situation, TECH has devised a highly demanding and rigorous Internship Program. This academic modality, unique in its kind, will allow the physician to be inserted, for 3 weeks, in a prestigious health institution. During this intensive internship, you will develop and manage the latest standards of work in Clinical Infectious Diseases and Advanced Antibiotic Therapy.

Within the hospital units chosen for the program, the specialist will have access to the best healthcare equipment and will learn from the most qualified medical staff. With these advantages, they will complete 8-hour consecutive days, from Monday to Friday, where they will face demanding health challenges and will offer the best care to real patients. You will also have a designated tutor who will constantly monitor your progress. Upon completion of this comprehensive internship, the doctor will be able to apply the most advanced trends within the health area in question and will acquire greater prestige.

02

Why Study an Internship Program?

Clinical Infectious Diseases and Antibiotic Therapeutics is one of the medical areas with the greatest advances in recent years thanks to numerous innovations in biochemistry and microbiology. In this context, professionals in this field must keep up to date with the diagnostic and therapeutic management of the infectious pathologies that have the greatest impact on human health. Paradoxically, the existing educational programs in the educational market do not cover the development of practical skills in this discipline. With this TECH program, comprised of a face-to-face and intensive internship, the specialist will have the opportunity to acquire all these skills in an immersive and direct way, providing care to real patients.



TECH will update you on prevention strategies, against latest generation sexually transmitted diseases such as VHP vaccines and PrEP and PEP pills against HIV"

1. Updating from the Latest Technology Available

In Clinical Infectious Diseases, technological innovations are constantly being applied to develop much more competent diagnostic methods. At the same time, biotechnology is developing increasingly sophisticated palliative and recovery pharmacological treatments. The specialist will have access to all these elements during this very complete program, which is 100% face-to-face, comprehensive and immersive.

2. Gaining In-depth Knowledge from the Experience of Top Specialists

During this Internship Program, the specialist will have access to a team of top level experts who will update them on the latest pharmacotherapeutic techniques against the most complex infectious diseases. At the same time, the professional will have an assistant tutor who will be in charge of supervising his progress in the most personalized way.

3. Entering First-Class Clinical Environments

For this academic modality, TECH has made a thorough selection of the hospitals that will host its graduates. These institutions have the most innovative technology of the moment and also have highly prestigious specialists in Clinical Infectious Diseases. This combination of resources and qualified personnel will allow the specialist to be up-to-date on the latest developments in the sector in a faster and more flexible way.



4. Putting the acquired knowledge into daily practice from the very first moment

Through this Internship Program, the specialist will have direct access to real cases and will be able to apply new tools and care protocols for the diagnosis and treatment of infectious pathologies. From a 100% practical and face-to-face internship, the doctor will reach a high level of mastery in the execution of the main interventional strategies available to them.

5. Expanding the Boundaries of Knowledge

This modality of studies offers the medical professional the possibility of accessing highly demanding hospital environments. These innovative centers will be located in different geographical latitudes, based on an exhaustive management, by TECH, to guarantee the access of specialists in international environments and standards of care.



*You will have full practical immersion
at the center of your choice"*

03

Objectives

Through this Internship Program in Clinical Infectious Diseases and Advanced Antibiotic Therapeutics, the medical professional will achieve an updated knowledge of the main trends in diagnosis and treatment of pathologies caused by bacteria and viruses. Therefore, they will be able to incorporate the latest protocols into their healthcare activity and achieve better results in order to take care of their patients' quality of life.

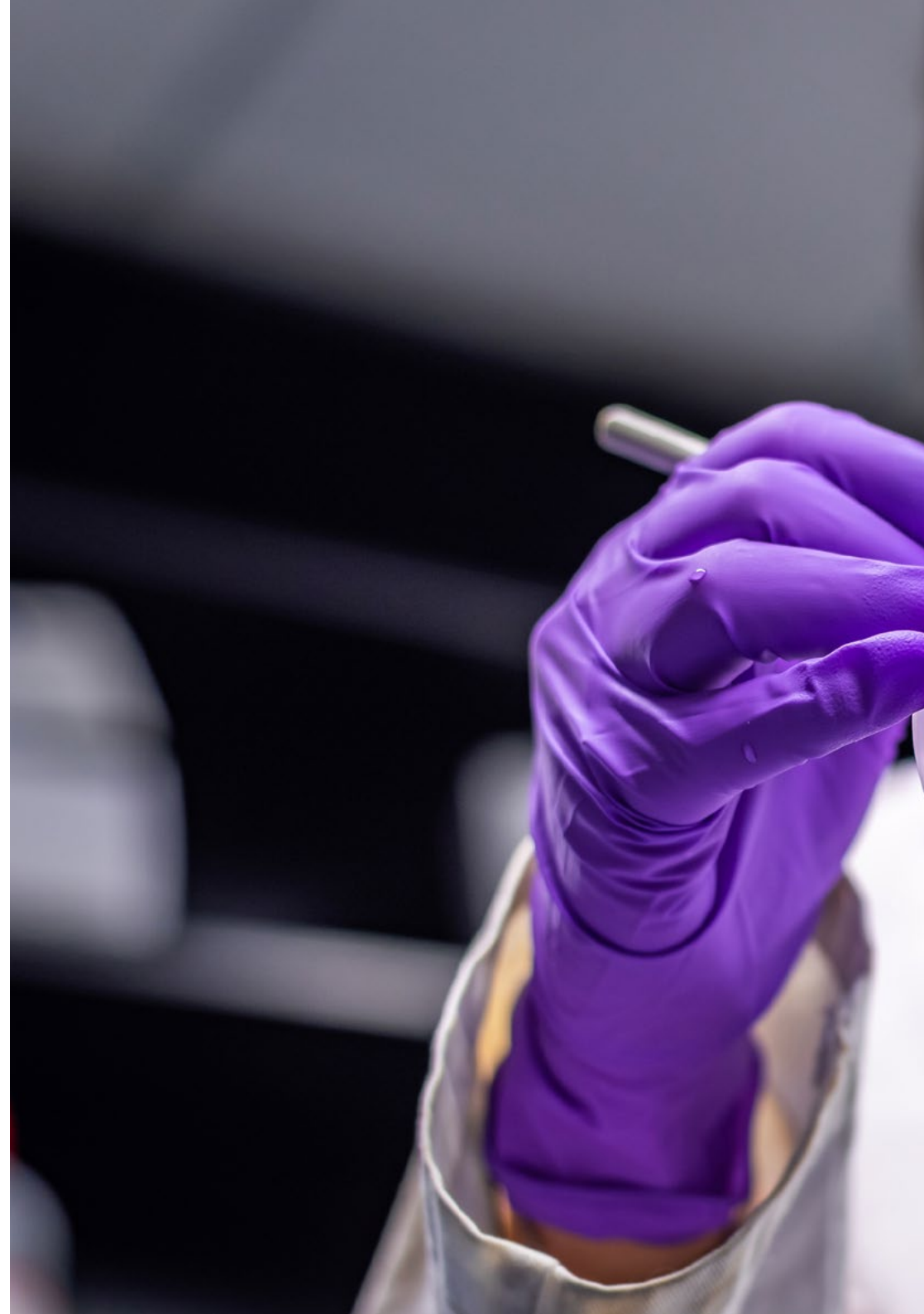


General Objectives

- Delve into key aspects of Clinical Infectious Diseases and Therapeutics Advanced Antibiotics
- Properly manage the prevention, diagnosis and treatment of infectious diseases and multidisciplinary approaches that facilitate the control of these pathologies
- Apply the latest technological innovations to establish an optimal management in diagnosis



Expand your skills in relation to the most advanced Antibiotic Therapeutics and incorporate into your professional activity the main techniques to take care of the multidrug-resistant patient"





Specific Objectives

- ◆ Know the epidemiological, economic, social and political conditions of countries with major infectious diseases
- ◆ Identify the different taxonomies of infectious agents, as well as the properties of microorganisms
- ◆ Delve into the chemical and physical agents of microorganisms to facilitate the interpretations of a microbiological study, understanding all the technical aspects of this
- ◆ Explain the complex interrelationships between infections and the different types of immunosuppression
- ◆ Address the important role of microbiology and the infectologist in the control of infectious diseases
- ◆ Describe the main elements that favour occupational accidents and the transmission of blood-borne pathogens
- ◆ Analyze the diagnostic and therapeutic approach to accidents involving blood
- ◆ Highlight the importance of morbidity and mortality due to infections in international travelers
- ◆ Explain the health controls for international travelers, as well as identify the most common infections for international travelers such as "return travel fever" or "traveler's diarrhea"
- ◆ Manage the current pathophysiological elements between chronic non-communicable diseases and infections
- ◆ Know the neurological, endocrine and immune interrelationships in the face of stress and infectious agents
- ◆ Address digestive diseases associated with infectious microorganisms and the function of this system in the body

- ♦ Gain in-depth knowledge on the infectious theory of rheumatic diseases
- ♦ Assess the latest clinical, diagnostic and therapeutic elements of the most lethal respiratory infections
- ♦ Recognize the lethal impact of healthcare-associated bacterial pneumonia and other factors
- ♦ Identify the clinical picture, pathobiology and diagnosis of tuberculosis
- ♦ Analyze the formation of Loeffler syndrome in its pulmonary phase and the clinical manifestations
- ♦ Highlight the pathogenesis and pathophysiology of coronavirus infections
- ♦ Recognize the main microbiological characteristics of coronaviruses
- ♦ Relate the biosafety protocols currently used in laboratories handling coronavirus samples
- ♦ Assess the extent of urinary tract infections and immune response in the genitourinary system
- ♦ Identify and know the latest updates on STIs, as well as the main pathologies of this group according to their classification into viral and bacterial
- ♦ Evaluate the main etiological agents such as salmonella, staphylococci, among others
- ♦ Understand the socio-economic measures taken to control foodborne infections
- ♦ Characterize the clinical picture, viral markers, evolution and treatment of Hepatitis, Tuberculosis and HIV/AIDS infection
- ♦ Evaluate the comprehensive care received by patients with infections in patients with co-infection and therapeutic considerations
- ♦ Understand the diagnostic approach to hemorrhagic diseases
- ♦ Get an overview of the types of hemorrhagic infections that concern the world, such as Dengue, Chikungunya, Zika, among others





- Diagnose possible microbes that cause CNS infections by studying cerebrospinal fluid
- Approach the basic infections of the CNS by means of their most relevant characteristics such as etiology and clinical picture. In addition to the correct diagnosis and treatment
- Identify and analyze the main control measures for zoonoses of concern to public health systems worldwide
- Establish an accurate diagnostic picture of some of the infections transmitted by animals, as well as their treatments and clinical picture
- Understand, in detail, the generalities of parasitosis, as well as the body's immune response to parasites, protozoa and helminths
- Correctly manage the different direct and indirect diagnostic methods for mycoses
- Identify the acquired genetic mechanisms that lead to antimicrobial resistance
- Further understanding of the different infections that have developed resistance to antiviral drugs
- Know the general aspects of vaccination, as well as its immunological basis, its production process and the risk for people

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Make the most of this opportunity to surround yourself with expert professionals and learn from their work methodology”

04

Educational Plan

This program consists of a 100% practical and face-to-face internship, where the specialist will be able to apply the most innovative procedures to diagnose and treat infectious pathologies of various kinds. This learning process will be developed during 3 weeks, in a hospital institution equipped with the latest resources for the approach of diseases such as Coronavirus, different Arbovirosis and many other infections.

In this completely practical Internship Program, the activities are aimed at developing and perfecting the skills necessary to provide healthcare in areas and conditions that require highly qualified professionals, and are oriented towards specific expertise for practicing the activity, in a safe environment for the patient and with highly professional performance.

The program will take place in consecutive 8-hour sessions, from Monday to Friday, under the active guidance of experts with extensive experience in Clinical Infectious Diseases. At the same time, each specialist will be advised by an assistant tutor who will update them on the applications of the most advanced antibiotic therapeutic techniques of the moment.

The practical education will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other fellow trainees who facilitate teamwork and multidisciplinary integration as transversal competencies for the practice of La medicine (learning to be and learning to relate).

The procedures described below will form the basis of the practical part of the internship, and their implementation is subject to both the suitability of the patients and the availability of the center and its workload, with the proposed activities being as follows:



Receive specialized education in an institution that can offer you all these possibilities, with an innovative academic program and a human team that will help you develop your full potential”

Module	Practical Activity
Advances in molecular biology as an advanced diagnostic method in infectious diseases	Apply molecular detection of respiratory pathogens using polymerase chain reaction
	Indicate Nucleic Acid detection based on positive blood cultures
	Detect presence of Nucleic Acids from viruses and bacteria by direct identification of pathogens by means of direct identification of pathogens in blood
	Properly interpret the results obtained through microbiological and biochemical studies to detect the most complex infectious pathologies
Advanced clinical infectiology of respiratory diseases	Recognize the symptoms of H1N1 influenza and differentiate it from other respiratory pathologies
	Identify the presence of respiratory pathologies, such as bacterial pneumonia, through bronchoscopy with bronchoalveolar lavage
	Prevent the occurrence of acute idiopathic eosinophilic pneumonia through an adequate pharmacological management of simple pulmonary eosinophilia
	Determine the most advanced antimicrobial and antibiotic drugs for respiratory pathologies
Latest Information on Coronavirus Infections	Identify the main microbiological characteristics and members of the coronavirus family
	Manage the epidemiological changes in coronavirus infections from their discovery to the present day from the evolution of new variants of SARS-CoV-2
	Recognize new pulmonary and cardiovascular pathologies secondary to or resulting from coronavirus infection
Latest trends in relation to Sexually Transmitted Infections (STIs)	Check for genital warts, which may be a sign of Human Papillomavirus infection, through genital colposcopy
	Promote the use of prophylactic HPV vaccines
	Master the main inhibitor and blocking drugs that prevent the replication of the Human Immunodeficiency Virus
	Learn the latest trends on the use of PrEP and PEP drugs with potential HIV infections

Viral hemorrhagic diseases, Arbovirois, Zoonoses and rare infectious diseases	Identify the risks of Ebola infection through poorly understood routes such as sexual transmission
	Apply alternative treatments such as blood transfusions, in patients with severe Arbovirois such as Dengue, to replace blood loss and sustain electrolyte replacement
	Analyze the main control measures for zoonoses of concern to public health systems worldwide
	Know the generalities of the most common infectious diseases in the world such as: Bubonic Plague, Lyme Disease, Babesiosis, Rift Valley Fever, Diphyllbothriasis, Zygomycosis, Cysticercosis and Kuru
Antibiotic resistance and near-future therapies	Conduct a genetic analysis of patients, based on the basis of pharmacogenomics, to determine which drugs are most suitable for them according to their DNA
	Develop alternative and innovative therapies with Bacteriophages, non-harmful viruses that feed on bacteria harmful to the human organism
	Treat patients with infections with novel techniques such as Liposome nanoparticles, used as bait to trap bacterial toxins
	Use novel technologies such as RA01, an anti-infective therapy based on the existence of antibodies that act as facilitators of infections

05 Where Can I Do the Internship Program?

This Internship Program will take place in a prestigious hospital center in the area of Clinical Infectious Diseases. The institutions chosen by TECH for this internship, of an intensive and face-to-face nature, have the most innovative technologies and a staff committed to the management of the most innovative procedures and equipment for the diagnosis and treatment of infectious pathologies. Likewise, the physician will have access to facilities located in different geographical latitudes, based on the desire of this study program to develop an update based on international standards.

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During this program, you will be able to apply what you have learned in a direct way, on real patients, from the first day of work, in a hospital institution with the best resources in Clinical Infectious Diseases”





The student will be able to do this program at the following centers:

Policlínico HM Sanchinarro

Country: Spain BORRAR City: Madrid

Management: Av. de Manoteras, 10,
28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
Gynecological Care for Obstetricians
- Nursing in the Digestive Tract Department



Make the most of this opportunity to surround yourself with expert professionals and learn from their work methodology"

06

General Conditions

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



General Conditions of the Internship Program

The general terms and conditions of the internship program agreement shall be as follows:

1. TUTOR: During the Internship Program, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor, whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the students does not show up on the start date of the Internship Program, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Internship Program will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: The Internship Program shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Internship Program. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. DOES NOT INCLUDE: The Internship Program will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed.

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

07 Certificate

This **Internship Program in Clinical Infectious Diseases and Antibiotic Therapeutics Advanced** contains the most complete and up-to-date program on the professional and academic field.

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

The certificate issued by TECH will reflect the grade obtained in the test.

Title: **Internship Program in Clinical Infectious Diseases and Antibiotic Therapeutics Advanced**

Duration: **3 weeks**

Attendance: **Monday to Friday, 8-hour consecutive shifts**

Total Hours: **120 h. of professional practice**



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