

# Postgraduate Diploma

## Immunodeficiency and Pharmacology Associated with Allergic Pathology



## Postgraduate Diploma Immunodeficiency and Pharmacology Associated with Allergic Pathology

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

Website: [www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-immunodeficiency-pharmacology-associated-allergic-pathology](http://www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-immunodeficiency-pharmacology-associated-allergic-pathology)

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# 01

# Introduction

Allergology is currently one of the medical specialties with the highest demand for care. Among the different etiologies that the specialist must acknowledge within this field, we find immunodeficiencies associated with allergic pathologies. In this comprehensive course, the specialist in this area of intervention will find the latest advances in all lines of action, brought together in a single intensive and effective course.





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*Immunodeficiency and Pharmacology  
Associated with Allergic Pathology is a high-  
intensity specialization course that is compatible  
with your personal and professional life”*

Allergology has seen how, in recent years, the number of people affected by the different forms of manifestation of the disease has increased notably. In the last two decades, this increasing trend has been particularly noticeable among children. And yet, very few countries have specialized services in this medical field.

This prevalence has led to allergy being considered a major health problem: according to the WHO, hundreds of millions of people suffer from rhinitis, one of the most common allergy conditions, and at least 300 million suffer from asthma. In addition to these figures, there is an enormous variety of other common and new allergies that have become commonplace in the specialist's office.

This training program has been created with the aim of providing professionals with specific training in the field of allergology to equip them with the most up-to-date knowledge in diagnosis and intervention.

In this sense, the professional must be able to offer their patients a study of their disease in which the recognition of allergens is a priority in order to work towards a lifestyle that aims to avoid symptoms and, with them, the progression of the disease.

During this training, you will learn about new lines of research and practice in allergic disease with a special interest in areas such as asthma and diagnosis by inflammatory genotypes or measurements: induced sputum, flow cytometry, measurement of cytokines and interleukins.

A comprehensive refresher program that will also allow you to incorporate Big Data and telemedicine skills. Work routines that will provide you with a new spectrum of performance and permanent growth.

This **Postgraduate Diploma in Immunodeficiency and Pharmacology Associated with Allergic Pathology** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The latest technology in online teaching software
- ♦ A highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- ♦ Practical cases presented by practising experts
- ♦ State-of-the-art interactive video systems.
- ♦ Teaching supported by telepractice
- ♦ Continuous updating and recycling systems
- ♦ Autonomous learning: full compatibility with other occupations
- ♦ Practical exercises for self-evaluation and learning verification
- ♦ Support groups and educational synergies: questions to the expert, debate and knowledge forums.
- ♦ Communication with the teacher and individual reflection work
- ♦ Content that is accessible from any fixed or portable device with an Internet connection
- ♦ Banks of complementary documentation permanently available, even after the program.



*Get updated in one of the most in-demand specialties, with 30-40% of the world's population affected by allergies".*

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*With a methodological design based on proven teaching techniques, this course will take you through different teaching approaches to allow you to learn in a dynamic and effective way”*

Our teaching staff is composed of medical professionals, practising specialists. In this way we ensure that we deliver the educational update we are aiming for. A multidisciplinary team of doctors trained and experienced in different environments, who will develop the theoretical knowledge in an efficient way, but, above all, will bring their practical knowledge derived from their own experience to this course: One of the differential qualities of this program.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Postgraduate Diploma. Developed by a multidisciplinary team of *e-learning* experts, it integrates the latest advances in educational technology. In this way, you will be able to study with a range of easy-to-use and versatile multimedia tools that will give you the necessary skills you need for your specialization.

The design of this program is based on Problem-Based Learning: an approach that views learning as a highly practical process. To achieve this remotely, we will use telepractice learning: with the help of an innovative interactive video system, and *learning from an expert*, you will be able to acquire the knowledge as if you were actually dealing with the scenario you are learning about. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

*An intensive refresher course in the concepts and approaches of the disease in order to incorporate the use of new drugs and treatments into your practice”*

*Our innovative telepractice concept will give you the opportunity to learn through an immersive experience, which will provide you with a faster integration and a much more realistic view of the contents: “learning from an expert”*



# 02 Objectives

Our objective is to train highly qualified professionals for the working An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is focused on helping medical professionals reach a much higher level of expertise and control. A goal that, in just six months, you will be able to achieve with a highly intensive and precise course.







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*If your goal is to take a step towards achieving the highest medical quality, this is the course for you: a program that aspires to excellence”*



## General Objectives

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- Define 21st century allergology
- Recognize new forms of allergic disease conditions
- Review the latest international practices in allergology
- Learn the new international lines of research in allergology
- Become familiar with new approaches
- Recognize the importance of allergic disease in primary care morbidity.
- Recognize allergens for appropriate preventive intervention and reduce the risk of exposure as a priority preventive measure





## Specific Objectives

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### Module 1. Introduction to Allergology

- ♦ Get up to date on the basic concepts of traditional allergic diseases.
- ♦ Learn about the most recent concepts of allergology in relation to new drugs.
- ♦ Learn the basic criteria of the key immunological reactions: skin, respiratory, and food.
- ♦ Develop skills in the use and understanding of the immunological mass mechanisms of allergic diseases: effector cells, immunoglobulins, interleukin, cytokines and complements
- ♦ Knowledge of the current numerical data on incidence and prevalence of allergic pathologies.

### Module 2. Immunodeficiencies in Allergology: Diagnostics and Treatments

- ♦ Explore immunodeficiencies related to allergology.
- ♦ Study advanced diagnostic procedures in this line of work.
- ♦ Study updated treatments in this area
- ♦ Know the classification and definition of immunodeficiencies in adults and the child population
- ♦ Know the differential diagnosis of autoimmune diseases in allergology
- ♦ Define and treat mastocytosis
- ♦ Understand the relevance of alpha 1 antitrypsin deficiency in allergic diseases

### Module 3. Main Pharmacological Groups Causing Allergic Pathology

- ♦ Train in drug allergy pathologies
- ♦ Review the main pharmacological groups causing allergic pathology.
- ♦ Learn the classification of the different pharmacological groups; antibiotics, NSAIDs, chemotherapeutic contrast media, proton pump inhibitors.
- ♦ Know the main differences between idiosyncratic and allergic reactions.
- ♦ Know the diagnostic protocols for diagnosing allergy to beta-lactams and NSAIDs.



*Acquire the necessary knowledge to offer quality practice in the field of allergology, providing your patients with expert and effective care”*

# 03

# Course Management

Within the concept of total quality of our program, we are proud to put at your disposal a Teaching Staff of the highest level, chosen for their proven experience. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.



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*An impressive teaching staff, trained by professionals from different areas of expertise, will be your teachers during your specialization: a unique occasion not to be missed”*

## International Guest Director

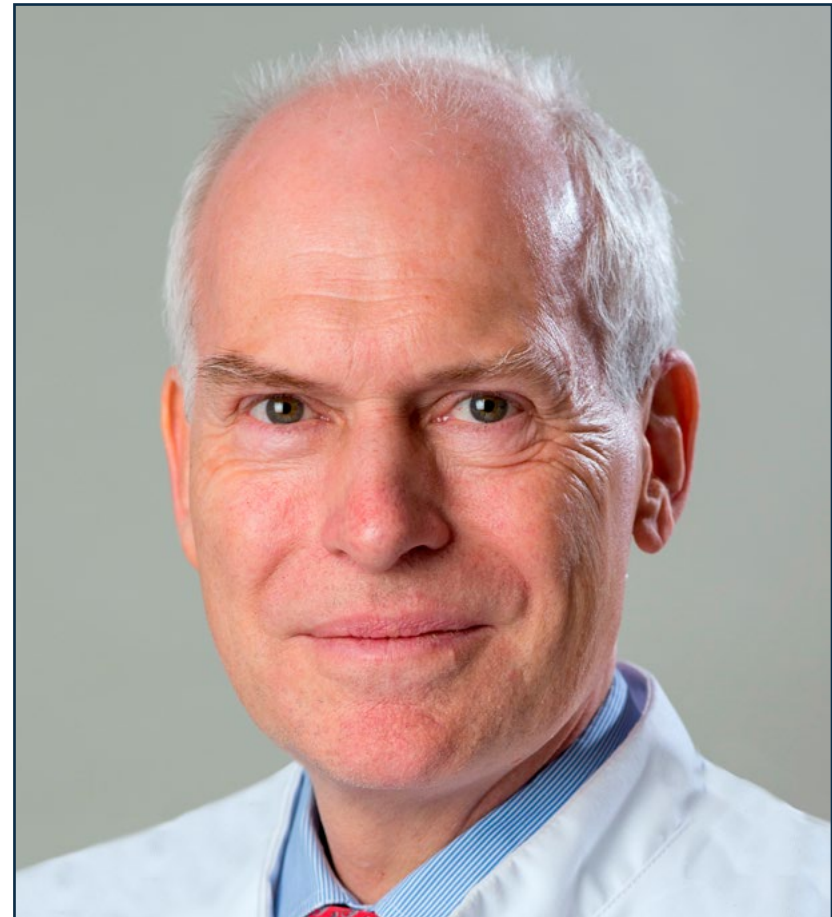
Dr. Torsten Zuberbier's outstanding professional and research career has left an indelible mark on the medical management of allergic diseases. The expert's healthcare competencies and prestige have enabled him to serve for almost two decades as President of the Foundation of the European Center for Allergy Research.

He also holds the main management positions at the Institute for Allergy Research at the Charité Berlin University and at the Fraunhofer Institute for Translational Medicine and Pharmacology, together with Professor Marcus Maurer.

On the other hand, his clinical work focuses on Urticaria, Neurodermatitis, Respiratory and Food Allergies and Allergic Rhinitis. However, his research and experimental work has been devoted to Mast Cell Biology, Mastocytosis and Atopic Dermatitis. Specifically, his studies have delved into the interaction of these immune cells with tissue-type cells. In this way, through a three-dimensional skin model, he has examined the close relationship between these processes and the development of other pathologies such as Eczema and Epidermal Neoplasia.

In this regard, this expert has numerous academic articles in scientific journals of global impact. He is Deputy Editor of the Journal of the German Dermatological Society and a member of the Advisory Board of the Allergo Journal. In these publications, the specialist has also disclosed his views on the relevance of Translational Medicine and the importance of accelerating the applied integration of the latest scientific knowledge.

In addition to this work, Dr. Zuberbier is President of the Global Allergy and Asthma Network of Excellence (GA<sup>2</sup>LEN), initiated by the European Union. He has also been Director General of the Dermatology, Venereology and Allergology Clinic of the Charité and has led the Allergie-Centrum-Charité of the Berlin-Mitte Dermatology Clinic.



## Dr. Zuberbier, Torsten

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- Co-Director of the Fraunhofer Institute for Translational Medicine and Pharmacology
- President of the Foundation of the European Center for Allergy Research
- Chairman of the Global Allergy and Asthma Excellence Network (GA<sup>2</sup>LEN)
- Co-Director General of the Clinic of Dermatology, Venereology and Allergology of the Charité
- Director of the Allergie-Centrum-Charité of the Dermatology Clinic Berlin-Mitte
- Head Physician for Dermatology at the Virchow Clinic in Berlin
- Honorary Doctorate of the University of Athens
- Specialist in Dermatology at the University of Perth Australia
- Medical Degree at the Freie Universität Berlin

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*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Management



### Dr. Fernández Nieto, María del Mar

- Assistant Physician, Allergology Unit, Jiménez Díaz Foundation IIS CIBERES (Respiratory Diseases)
- Member of the SEAIC Asthma Committee
- Member of the NeumoMadrid Asthma Group.
- Member of the SEPAR Asthma Working Group.
- Member of ERS
- Member of EAACI

## Professors

### Dr. Gómez Cardeñosa, Aída

- ♦ Attending Physician of the Allergy Department at Jiménez Díaz Foundation.
- ♦ Member of the multidisciplinary asthma unit. Jiménez Díaz Foundation
- ♦ Member of the Spanish Society of Allergology (SEAIC).
- ♦ Member of the Social Networking Commission (SEAIC)
- ♦ Member of the Cutaneous Allergy Committee (SEAIC).
- ♦ Member of EAACI
- ♦ Collaborating reviser for the Journal of Investigational Allergology and Clinical Immunology

### Dr. Dávila Fernández, Galicia

- ♦ Assistant Physician of the Allergology Department of the Henares University Hospital (Madrid).
- ♦ Coordinator of Training and Teaching at the Henares University Hospital.
- ♦ Associate Professor (PAC) of the Francisco de Vitoria University of Madrid.
- ♦ Member of the Spanish Society of Allergology and Clinical Immunology (SEAIC).
- ♦ Member of the SEAIC Drug Allergy Committee.





#### **Dr. Rojas Pérez-Ezquerro, Patricia**

- ♦ Allergist. Gregorio Marañón General University Hospital
- ♦ Member of the Spanish Allergy Society (SEAIK)
- ♦ Member of the Drug Allergy Committee, Spanish Society of Allergology (SEAIK).
- ♦ Master's Degree in Clinical Management, Medical, and Healthcare Management. Cardenal Herrera University

#### **Dr. Seoane Reula, Elena**

- ♦ Allergist. Doce de Octubre Hospital, Madrid
- ♦ Immunologist. Gregorio Marañón Hospital, Madrid
- ♦ Master's degree in Pediatrics: San Jorge University of Zaragoza
- ♦ Doctor of Medicine and Surgery. Outstanding Award. Cádiz University
- ♦ Coordinator of the Children's Immuno-Allergy Society. Gregorio Marañón Hospital, Madrid,
- ♦ Medical advisor of the Spanish Association of Primary Immune Deficits. (AEDIP)
- ♦ President of the Immunology Committee of the Spanish Society of Allergology (SEAIK).
- ♦ Member of the Clinical Immunology Working Group of the Spanish Society of Clinical Immunology and Pediatric Allergy (SEICAP).
- ♦ Member of the Clinical Immunology Group of the Spanish Society of Immunology (GISEI).
- ♦ Member of the European Society for Immunodeficiency Diseases (ESID)

#### **Dr. Acevedo Caballero, Nathalie del R**

- ♦ Medical Immunologist, Institute of Immunological Research, Cartagena, Colombia.
- ♦ PhD in Medical Sciences, Karolinska Institute

# 04

# Structure and Content

The contents of this specialist course have been developed by the different teachers of this program, with a clear purpose: to ensure that our students acquire each and every one of the necessary skills to become true experts in this field.

A complete and well-structured program that will take you to the highest standards of quality and success.





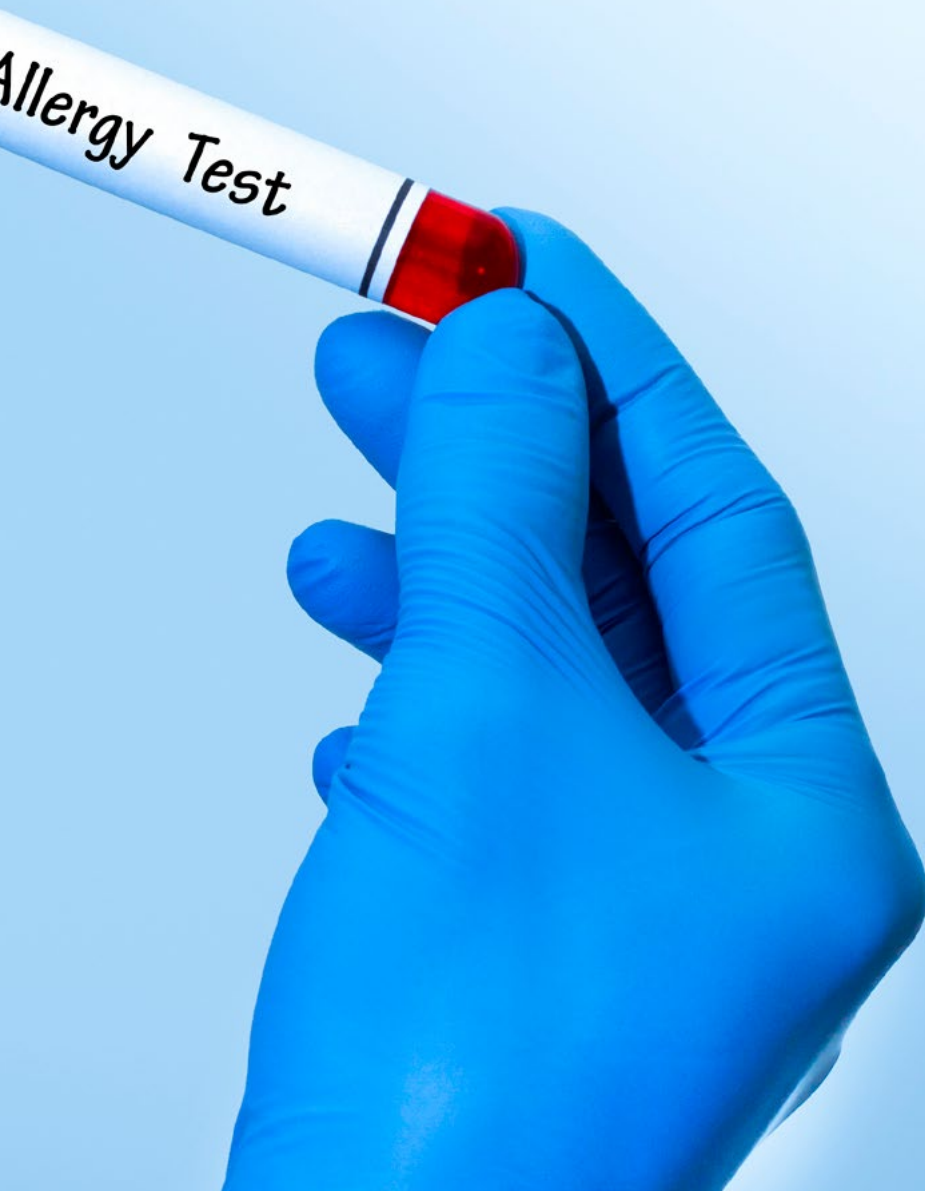
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*A comprehensive teaching program, structured in well-developed teaching units, oriented towards learning that is compatible with your personal and professional life"*

## Module 1. Introduction to Allergology

- 1.1. Introduction. Terminology. Atopy and allergy.
  - 1.1.1. Terminology.
  - 1.1.2. Atopy
  - 1.1.3. Allergy
- 1.2. History of Allergies
  - 1.2.1. Origins and Development
- 1.3. Prevalence of allergic diseases. Prevalence of allergic diseases
  - 1.3.1. Prevalence
  - 1.3.2. Pharmacoeconomics
- 1.4. Immunological basis of allergic diseases. Classification of hypersensitivity reactions
  - 1.4.1. Immunological Basis of Allergic Diseases
  - 1.4.2. Classification of Hypersensitivity Reactions
  - 1.4.3. Cells and Molecules Involved in the Immediate Hypersensitivity Immune Response
- 1.5. Pathophysiology of an Allergic Reaction. Immunological basis of allergic diseases
- 1.6. Effector Cells Involved in Allergic Reactions
  - 1.6.1. Effector Cells Involved in Allergic Reactions
  - 1.6.2. Basophils, Mast Cells, Cytokines, Eosinophils, Allergy Mediators
- 1.7. Immunoglobulin E: Features. Mechanisms of IgE Synthesis Regulation. High and Low-Affinity IgE Receptors
- 1.8. The Complement System Components. Activation and Regulation Pathways
- 1.9. Immunological Mechanisms Involved in Allergic Dermatoses
- 1.10. Digestive Tract Immunology Mechanisms of Immunological Tolerance Allergic Reactions to Food Adverse Reactions to Additives and Preservatives





## Module 2. Immunodeficiencies in Allergology: Diagnostics and Treatments

- 2.1. Primary Immunodeficiencies in Pediatric Patients
- 2.2. Primary Immunodeficiencies in Adult Patients
- 2.3. Organ-Specific Autoimmune Diseases.
- 2.4. Systemic Autoimmune Diseases
- 2.5. Alpha 1 Antitrypsin Deficiency
- 2.6. Cutaneous Mastocytosis
- 2.7. Systematic Mastocytosis
- 2.8. Celiac Disease

## Module 3. Main Pharmacological Groups Causing Allergic Pathology

- 3.1. Adverse Reactions to Medications. Immune System Adverse Reactions
- 3.2. Allergy to Beta-Lactam Antibiotics
- 3.3. Allergy to Quinolone Group Antibiotics
- 3.4. Allergy to Sulfonamide Group Antibiotics
- 3.5. Allergy to Non-Steroidal Anti-Inflammatory Drugs
- 3.6. Allergy to Chemotherapy Drugs
- 3.7. Allergy to Anticoagulants
- 3.8. Proton Pump Inhibitor Allergy
- 3.9. Allergy to Contrast Media
- 3.10. Pseudoallergic and Idiosyncratic Reactions to Drugs

# 05 Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: ***Relearning***.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the ***New England Journal of Medicine*** have considered it to be one of the most effective.



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*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 face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, 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, trying to recreate the real conditions in the physician's professional practice.



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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method.*

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate 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.



## Relearning Methodology

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

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.



*Professionals will learn through real cases and by resolving 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 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

*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 produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

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.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

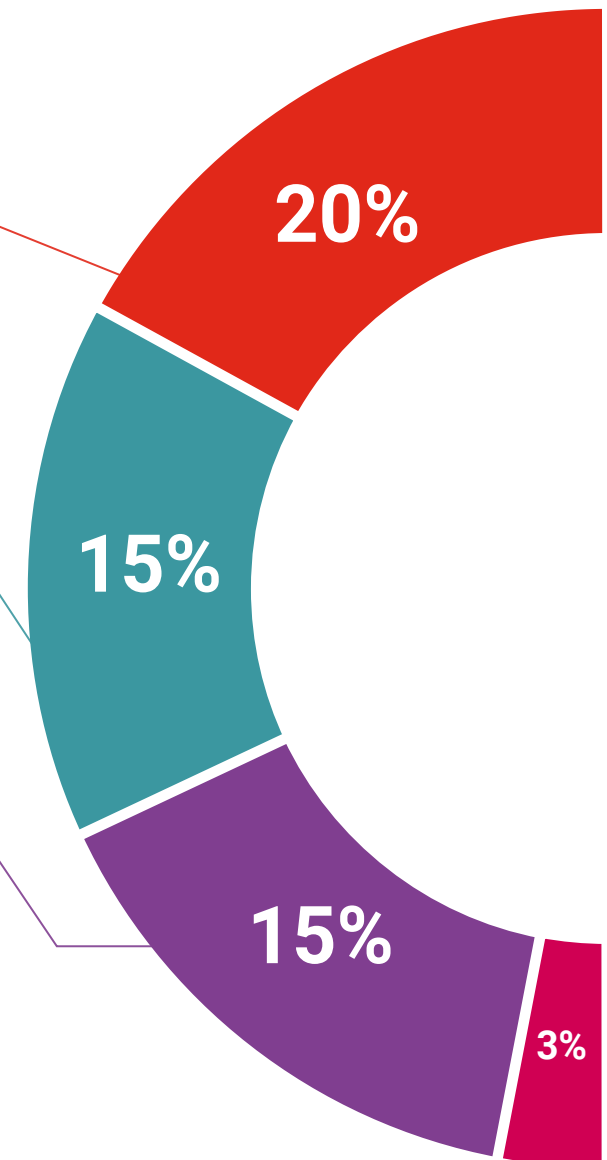
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



# 06 Certificate

The Postgraduate Diploma in the Immunodeficiency and Pharmacology Associated with Allergic Pathology guarantees, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.





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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*

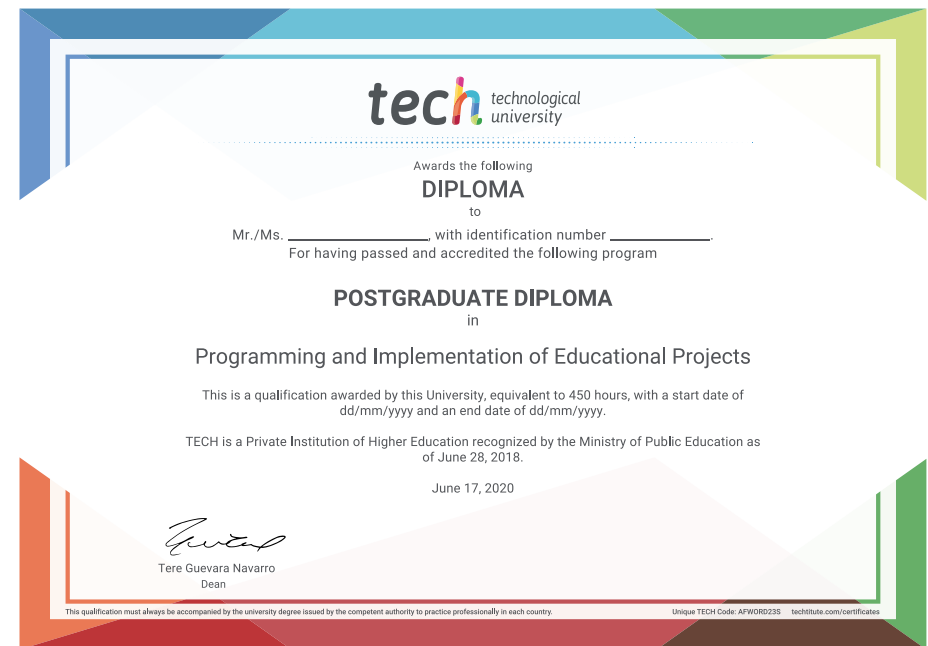
This **Postgraduate Diploma in Immunodeficiency and Pharmacology Associated with Allergic Pathology** contains the most complete and up-to-date scientific program on the market.

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

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 Programming and Implementation of Educational Projects**

Official N° of Hours: **450 hours**.



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.



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

**tech** technological  
university

**Postgraduate Diploma**  
Immunodeficiency and  
Pharmacology Associated  
with Allergic Pathology

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

**Postgraduate Diploma**  
Immunodeficiency and Pharmacology  
Associated with Allergic Pathology

