

# Postgraduate Diploma

## Respiratory Allergy in the Pediatric Age





## Postgraduate Diploma Respiratory Allergy in the Pediatric Age

Course Modality: **Online**

Duration: **6 months.**

Certificate: **TECH Technological University**

Official N° of hours: **450 h.**

Website: [www.techtute.com/pk/medicine/postgraduate-diploma/postgraduate-diploma-respiratory-allergy-pediatric-age](http://www.techtute.com/pk/medicine/postgraduate-diploma/postgraduate-diploma-respiratory-allergy-pediatric-age)

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# 01

# Introduction

The prevalence of diseases such as asthma or nasal-ocular allergies in children and adolescents is very high. On occasions, these pathologies are treated by many specialists mistakenly as a minor problem, without taking into account such a decisive factor as the effect on their quality of life or the complications that may arise. In order to avoid this type of situation, the medical professional must know in detail the latest advances in the diagnosis and treatment of these conditions, so as to be able to approach this type of clinical cases based on the most affective scientific evidence. You will find all the information you need in this comprehensive and exhaustive program, which delves into the pathophysiology and etiopathogenesis of both diseases, contributing to the updating of your knowledge through a 100% online qualification adapted to your educational needs.





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*Get up to date on the latest developments in the treatment of asthma in infants, children and adolescents and expand your knowledge in the approach to these clinical cases through a 100% online qualification"*

Asthma and nasal-ocular allergies are present in a high percentage of the child and adolescent population and although they can appear at different stages and with a frequency that depends greatly on the context in which the patient's life develops, suffering from these pathologies is of great concern to families. Asthmatic crises and the most severe symptoms of allergy can seriously affect the child's daily life, interfering with daily activities such as playing, playing sports, going to school or even resting.

In order to be able to deal with these types of cases in a more effective way, and based on the latest scientific evidence that guarantees an optimal quality of life for patients suffering from this type of diseases, pediatric medicine specialists must constantly update their knowledge in terms of diagnostic and treatment techniques. For this reason, and with the aim of facilitating this task, TECH has developed this Postgraduate Diploma in Respiratory Allergy in the Pediatric Age. This is an exhaustive program that precisely delves into the pathophysiology of these conditions, their classification based on the different types of phenotypes that exist and the triggering factors, with special emphasis on the latest developments regarding the most effective and efficient treatments.

Its convenient 100% online format will allow you to balance your medical and educational schedules, offering you a personalized calendar according to your availability. In addition, and in order to offer an experience adapted to the needs of each specialist, in the Virtual Classroom, they will find hours of additional material with which they will be able to delve into those aspects of the syllabus that they find most interesting and enriching for their professional practice.

This **Postgraduate Diploma in Respiratory Allergy in the Pediatric Age** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of practical cases presented by experts in Pediatrics and Allergology
- ♦ 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
- ♦ 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



*Nasal-ocular allergies are very present in the day-to-day work of the different pediatric specialists. Therefore, having a thorough and up-to-date knowledge will help you to better understand their pathophysiology and etiopathogenesis”*

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*You will delve into allergies to pollen, animal epithelium, dust mites and damp fungi to gain a broad and up-to-date view of their epidemiology and molecular diagnosis"*

The program's teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading 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 immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. This will be done with the help of an innovative system of interactive videos made by renowned experts.

*In the syllabus you will find a catalog of complementary tests to the traditional ones, but highly effective, for the early diagnosis of asthma in pediatric patients.*

*Thanks to this Postgraduate Diploma you will be able to learn about the latest developments in drugs available to treat asthma in children under 3 years of age.*



# 02 Objectives

For any medical specialist, pursuing an academic qualification once they begin their working life can become a very complex task to carry out in a way that is compatible with the hustle and bustle of general practice or the 12- and 24-hour shifts. For this reason, TECH's objective with the launch of this qualification is none other than to facilitate this task, offering you a complete program adapted to your needs, both in terms of updating your knowledge and availability. Therefore, with this Postgraduate Diploma you will be able to perfect your ability to diagnose, manage and treat pediatric patients with asthma or nasal-ocular allergies without any problem and with total guarantee.





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*If among your goals with this qualification is to become an expert on rhinoconjunctivitis, TECH guarantees that you will achieve it in less than 6 months"*



## General Objectives

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- ◆ Provide the specialist with all the material they need to know the latest scientific advances in respiratory allergy in pediatrics
- ◆ Know in detail the latest developments in the treatment of asthma and its complications at an early age, from infancy to adolescence
- ◆ Delve into the specifics of the diagnosis of nasal-ocular allergies and establish an appropriate treatment based on the evidence in terms of drugs and techniques



*You will get up to date on approved biologic therapies for the treatment of asthma in the pediatric population"*





## Specific Objectives

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### Module 1. Asthma in the Infant and Young Child

- ♦ Gain knowledge about what we call asthma in the young child, its pathophysiology and natural history
- ♦ Delve into the different developmental and trigger phenotypes and their implications for the management of asthma in children
- ♦ Get to know the prevalence of asthma in the young child and the factors that promote it
- ♦ Delve into the differential diagnosis and the tests necessary to rule out certain pathologies
- ♦ Know the correct use of inhalers

### Module 2. Asthma in Older Children and Adolescents

- ♦ Delve into the pathophysiology of asthma through the study of inflammatory cells and mediators
- ♦ Delve into the current classification of phenotypes in asthma
- ♦ Be able to make a correct diagnosis of asthma in the older child
- ♦ Gain knowledge about the complementary tests that support the diagnosis of asthma in the older child
- ♦ Get to know which are the pathologies that usually coexist in the patient with asthma and their approach

### Module 3. Eye-Nasal Allergy

- ♦ Delve into the impact of allergic rhinoconjunctivitis on the patient and society
- ♦ Further treatment of rhinoconjunctivitis according to the ARIA guidelines
- ♦ Get to know the geographic and climatic distribution of the different allergens
- ♦ Be able to make a diagnosis by components to discern cross reactivities from real ones

03

# Course Management

This Postgraduate Diploma is directed and taught by a group of specialists in Pediatrics and Allergology with extensive professional experience in the specific management of clinical cases of children and adolescents with asthma and nasal-ocular allergies. This is a team of practicing physicians who have decided to share their experience in dealing with these patients, in order to present a critical, real and up-to-date vision of the situations that graduates may encounter in their practice and the most appropriate and effective way to solve them.





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*The teaching team has selected for this program a series of real clinical cases, taken from their own practices, so that you can contextualize the syllabus and put your knowledge into practice"*

## Management



### Dr. Troyano Rivas, Carmen

- ◆ Assistant Physician of the Pediatrics Department in the Allergy and Pediatric Pulmonology Section of the 12 de Octubre Hospital
- ◆ Collaborating Professor at the Complutense University of Madrid
- ◆ Degree in Medicine from the Complutense University of Madrid
- ◆ MIR Specialist in Pediatrics and its specific areas at the La Fe University Hospital, Valencia

## Professors

### Dr. Muñoz Archidona, Cristina

- ◆ Pediatric Specialist in outpatient Allergology and Pediatric Pulmonology at the Móstoles University Hospital
- ◆ Responsible for and coordinator of outpatient consultations in Pediatric Pulmonology at the General Hospital of Villalba
- ◆ Pediatric Specialist at the Ramón y Cajal University Hospital and Henares University Hospital
- ◆ Degree in Medicine from the Autonomous University Madrid
- ◆ Specialty in Pediatrics at the Severo Ochoa University Hospital
- ◆ Master's Degree in Pediatric Emergencies at the CEU Cardenal Herrera University
- ◆ Expert in Pediatric Trauma, Pediatric Critical Patient, Pediatric Emergencies and Pediatric Vital Emergencies at CEU Cardenal Herrera University

### Dr. Garriga Baraut, Teresa

- ◆ Specialist in Allergology at Valle de Hebron Hospital
- ◆ Resident Allergology Physician at Valle de Hebron Hospital
- ◆ Doctorate in Medicine at the Autonomous University of Barcelona
- ◆ Degree in Medicine from the University of Barcelona

### Dr. Navío Anaya, María

- ◆ Specialist in Pediatrics and its specific areas at Doctor Peset University Hospital, Valencia
- ◆ Degree in Medicine. Jaime Primero University. Castellón
- ◆ Some of its professional associations include the Official College of Physicians of Valencia, the Valencian Society of Pediatrics, the Spanish Association of Pediatrics, and the Spanish Association of Pediatrics



**Dr. Mesa del Castillo Payá, María**

- ◆ Specialist in Pediatrics and Allergology at El Escorial University Hospital
- ◆ Vice President of SEICAP, Spanish Society of Clinical Immunology, Allergy and Pediatric Asthma
- ◆ Hospital Tutor for Family and Community Medicine Residents at the El Escorial University Hospital
- ◆ Specialty via MIR in Allergology and Clinical Immunology at the San Carlos Clinical Hospital
- ◆ Specialty via MIR in Pediatrics and Specific Areas at the Ramón y Cajal Hospital

**Dr. Mansilla Roig, Beatriz**

- ◆ Specialist in Pediatric Allergology
- ◆ PhD in Medicine from the University of Valencia
- ◆ Specialist in Pediatrics and Specialized Areas Doctor Peset Hospital
- ◆ Master's Degree in Pediatrics in Primary Care by the Complutense University of Madrid
- ◆ Master's Degree in Pediatric Dermatology by CEU Cardenal Herrera University CEU Cardenal Herrera University

**Dr. Tortajada Girbés, Miguel**

- ◆ Head of Pulmonology and Pediatric Allergy at the La Fe University and Polytechnic Hospital of Valencia
- ◆ Doctor in Medicine and Surgery from the Faculty of Medicine of the University of Valencia with the mention of "Excellent Cum Laude"
- ◆ European Accreditation in Pediatric Allergy and Clinical Immunology by the European Academy of Allergology and Clinical Immunology (EAACI), Spanish Accreditation in Pediatric Allergy, Clinical Immunology, Asthma and Pulmonology by the Spanish Association of Pediatrics (AEP)

# 04

## Structure and Content

The content of this qualification has been designed based on the latest and most accurate scientific evidence in the field of pediatrics. In this way, TECH and its team of experts have created an intensive and exhaustive syllabus, with a quality that is up to the standards of the medical profession. In addition, the teaching team has selected for each module complementary readings, detailed videos, research articles and real clinical cases with which the graduate will be able to put their skills into practice, making this educational experience a unique opportunity to expand and update their knowledge in less than 6 months.





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*Thanks to the exhaustiveness with which this syllabus has been designed, you will be able to handle all the information to deal with cases of severe and difficult to control asthma based on the latest techniques"*

## Module 1. Asthma in the Infant and Young Child

- 1.1. The Debate Between Recurrent Wheezing and Asthma
- 1.2. Prevalence Around the World
- 1.3. Natural History
  - 1.3.1. Tucson Phenotypes
  - 1.3.2. Phenotypes by Triggers
  - 1.3.3. IPA Index
- 1.4. Etiopathogenesis
- 1.5. Risk Factors
  - 1.5.1. From the Guest
  - 1.5.2. Perinatal
  - 1.5.3. Environmental
- 1.6. Diagnosis
  - 1.6.1. Clinical and Anamnesis
  - 1.6.2. Complementary Tests
  - 1.6.3. Evaluation of Severity
  - 1.6.4. Assessment of Control
- 1.7. Differential Diagnosis
- 1.8. Medical treatment
  - 1.8.1. Treatment Steps
  - 1.8.2. Drugs Available for Asthma in Children under 3 Years of Age
- 1.9. Non-Pharmacological Treatment
  - 1.9.1. Environmental Measurements
  - 1.9.2. Immunizations
- 1.10. Inhaled Therapy in Children
  - 1.10.1. Fundamentals of Inhaled Therapy: Particle Characteristics and Pulmonary Deposition
  - 1.10.2. Correct use of Inhalers According to Age

## Module 2. Asthma in Older Children and Adolescents

- 2.1. Prevalence
- 2.2. Pathophysiology
  - 2.2.1. Cells Involved in Asthma
  - 2.2.2. Inflammatory Mediators
  - 2.2.3. Airway Obstruction Mechanisms
- 2.3. Phenotypes of Asthma
  - 2.3.1. Th2 Phenotype
  - 2.3.2. Non-Th2 Phenotype
- 2.4. Diagnosis
  - 2.4.1. Pulmonary Function
  - 2.4.2. Reversibility
  - 2.4.3. Other Markers of Inflammation
- 2.5. Differential Diagnosis
- 2.6. Comorbidities
  - 2.6.1. Rhinosinusitis
  - 2.6.2. Sleep Apnea-Hypopnea Syndrome (SAHS)
  - 2.6.3. Gastroesophageal Reflux
  - 2.6.4. Obesity
  - 2.6.5. Atopic Dermatitis
- 2.7. Medical treatment
  - 2.7.1. Treatment Steps
  - 2.7.2. Available Drugs
- 2.8. Non-Pharmacological Treatment
  - 2.8.1. Asthma Education
- 2.9. Uncontrolled Severe Asthma
- 2.10. Approved Biological Treatments in the Pediatric Population



### Module 3. Eye-Nasal Allergy

- 3.1. Prevalence
  - 3.1.1. Quality of Life of the Patient with Eye-Nasal Allergy
  - 3.1.2. Socioeconomic Cost
- 3.2. Etiopathogenesis
- 3.3. Diagnosis of Rhinoconjunctivitis
  - 3.3.1. Clinical symptoms
  - 3.3.2. Etiological
- 3.4. Differential Diagnosis
- 3.5. Pharmacological Treatment of Allergic Rhinoconjunctivitis
- 3.6. Health Education for Allergen Avoidance
- 3.7. Pollen Allergy
  - 3.7.1. Epidemiology
  - 3.7.2. The Pollen Molecule
  - 3.7.3. Pollen Classification
  - 3.7.4. Geographical Distribution of Pollens
  - 3.7.5. Main Allergens
  - 3.7.6. Molecule Diagnostics in Pollen Allergy
- 3.8. Allergy to Animal Epithelia
  - 3.8.1. Epidemiology
  - 3.8.2. Main Allergens
  - 3.8.3. Molecular Diagnosis in Allergy to Animal Epithelia
- 3.9. Dust Mite Allergy
  - 3.9.1. Epidemiology
  - 3.9.2. Mites
  - 3.9.3. Distribution of Mites according to Climate
  - 3.9.4. Main Allergens
  - 3.9.5. Molecular Diagnoses
- 3.10. Allergy to Damp Fungi
  - 3.10.1. Epidemiology
  - 3.10.2. Moisture Mould
  - 3.10.3. Distribution of Fungi according to Climate
  - 3.10.4. Main Allergens
  - 3.10.5. Molecular Diagnoses

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 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.*





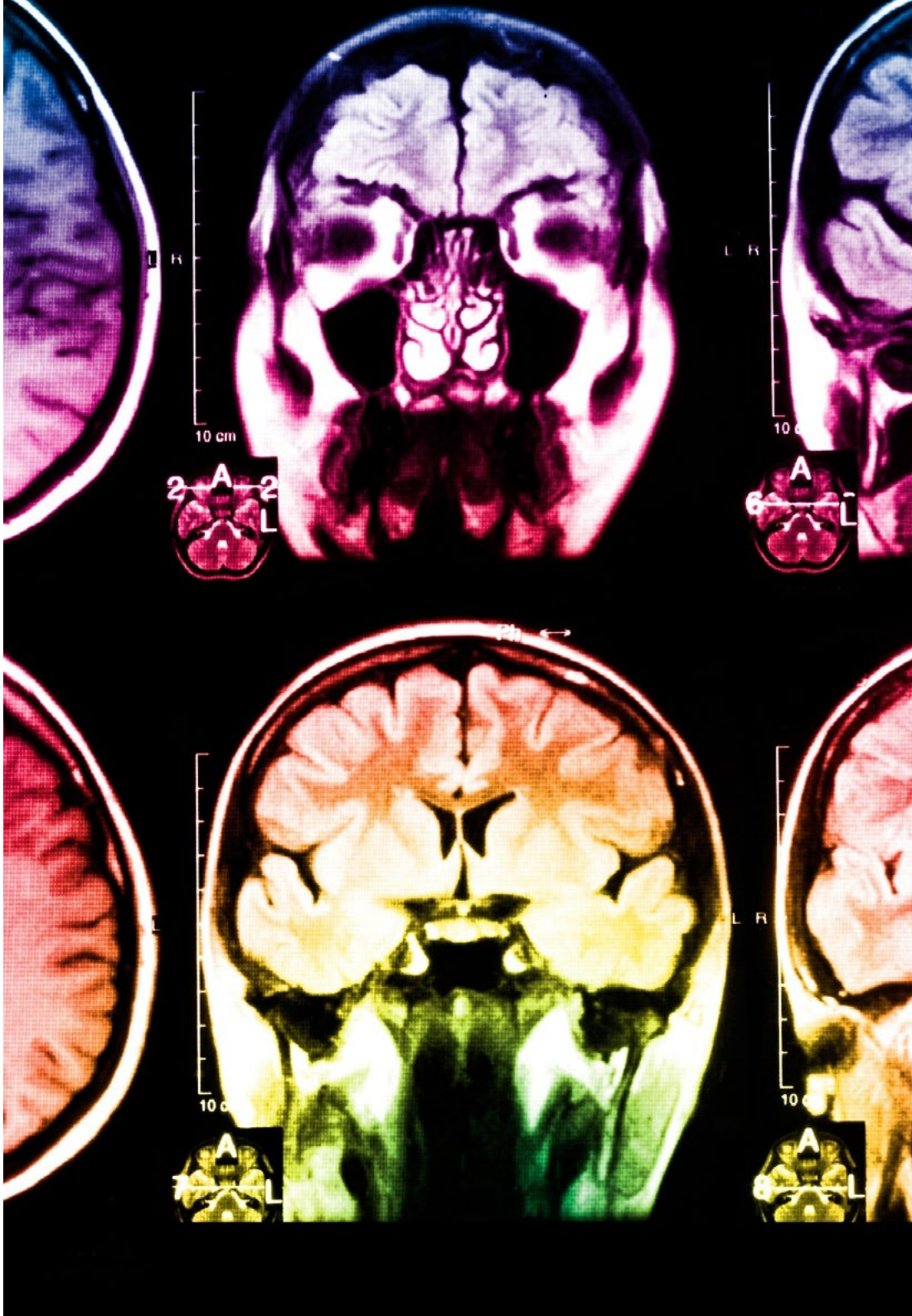
At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

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

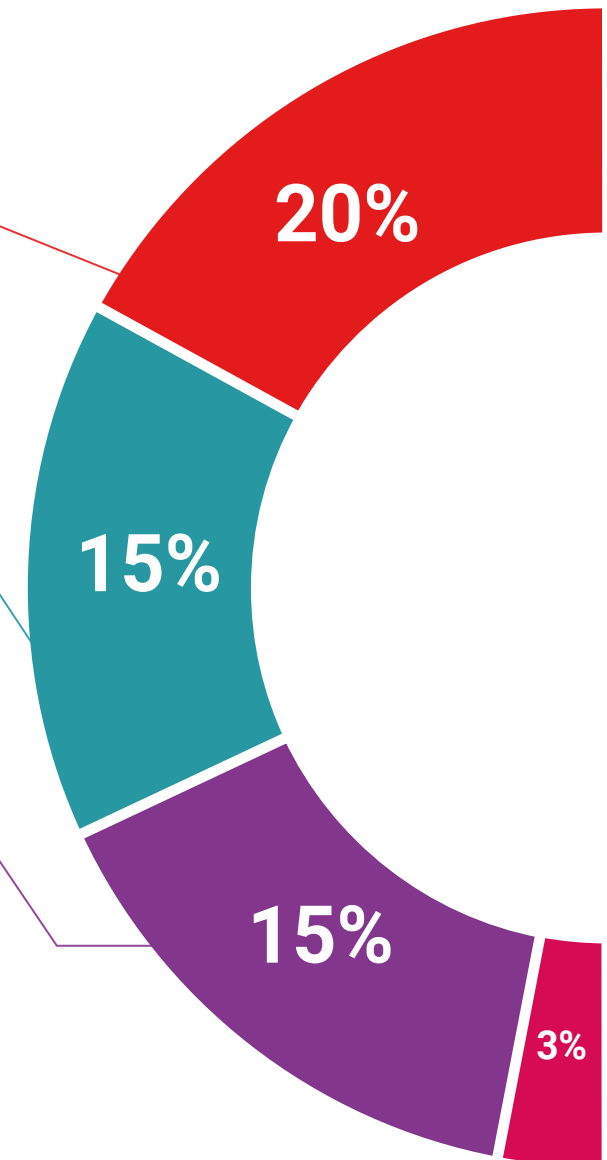
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

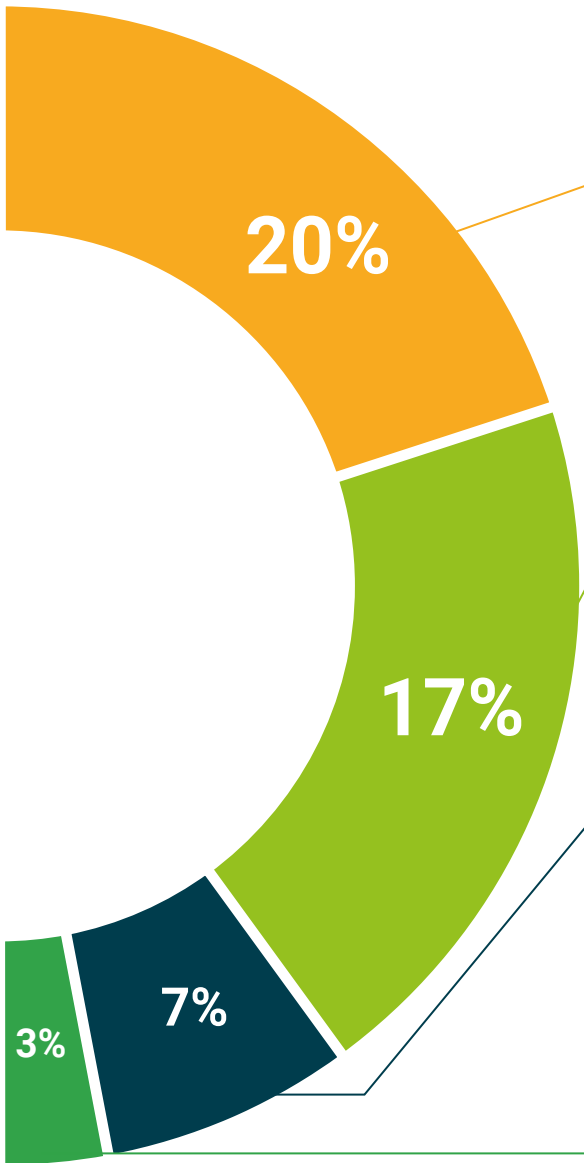
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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 Respiratory Allergies in the Pediatric Age guarantees students, 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”*

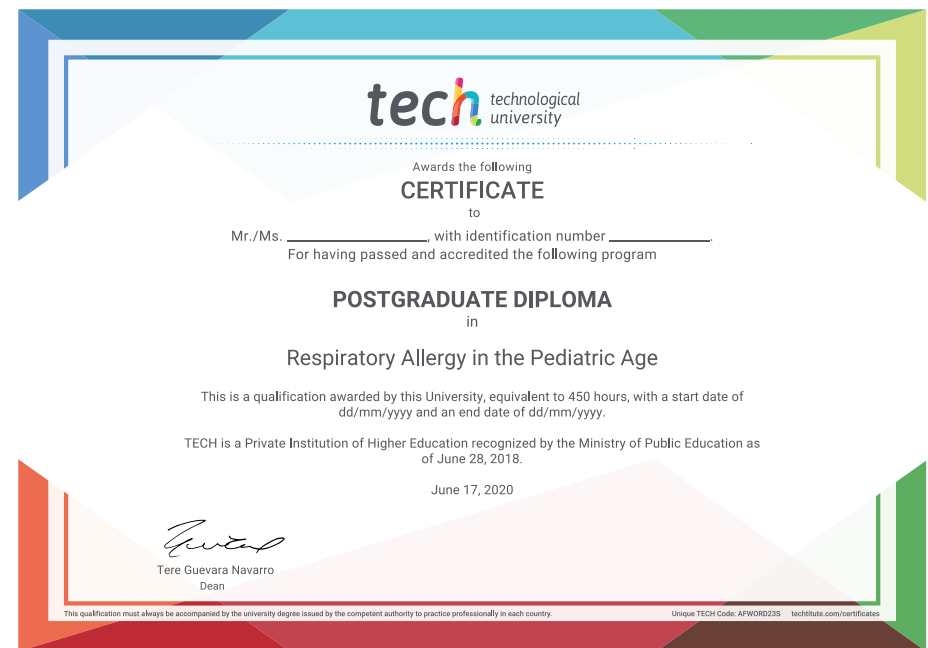
This **Postgraduate Diploma in Respiratory Allergy in the Pediatric Age** contains the most complete and up-to-date scientific program on the market.

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

The certificate 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 Respiratory Allergy in the Pediatric Age**

Official N° of Hours: **450 h.**



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

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

**tech** technological  
university

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## Respiratory Allergy in the Pediatric Age

