Postgraduate Certificate

Genetics, Precision Medicine and Childhood Illnesses

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Postgraduate Certificate

Genetics, Precision Medicine and Childhood Diseases

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Global University**
- Credits: **6 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/medicine/postgraduate-certificate/genetics-precision-medicine-childhood-diseases

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01

Introduction

The respiratory system of children is vulnerable and a target for various environmental and genetic factors. There is some research that has succeeded in finding the genetic origin of some of these conditions, showing that some mutations in the DNA code alter the abundance and function of the coded polypeptides, that is to say, that a change in cellular behavior is provoked, causing malformations and malfunctioning of the lungs. In this regard, reviewing and understanding how Childhood Illnesses are associated with genetic alterations enhances the professional development of specialists focused on pediatric-focused Precision Medicine.

Knowing the genetic alterations of respiratory diseases in children improves physicians' professional development"

Respiratory diseases associated with genetic alterations affect the airways, parenchyma and vascular structures of the lungs in children. They can occur for many reasons, such as a simple monogenic disorder resulting in Kartagener's syndrome. However, most genetic traits that are inherited from parents often result in more subtle pathologies such as asthma and idiopathic pulmonary fibrosis.

A better understanding of the genetic basis of lung diseases provides practitioners with new insights into the pathophysiology and, in some cases, helps to understand some rare conditions. Thus, it is the job of specialists to identify the genes that cause these conditions from the prenatal period.

Therefore, the Postgraduate Certificate in Genetics, Precision Medicine and Childhood Illnesses offers students a different and extensive way of understanding them, combining all the knowledge obtained in these different fields of medicine. In this way, we seek to delve into the implications of childhood congenital diseases and the use that can be made of Precision Medicine to establish diagnoses centered on the patient and not on the disease

Similarly, as the program progresses, there will be a broader vision of cystic fibrosis in children and the genetic bases that cause it, culminating in a study of the biological treatments applied to the child population. For all these reasons, the Postgraduate Certificate has a teaching staff highly qualified in this area of medicine, putting all their knowledge and work experience at the disposal of the students.

This program is conducted in a 100% online mode, so the student will have the ease of being able to do it at the time that best suits him, without having to pause their daily activities to attend a class. All you need is a device with internet access to start catapulting your career in an area of work that is in high demand internationally.

The educational program in this **Postgraduate Certificate in Genetics, Precision Medicine and Childhood Illnesses** has been updated and approved by a group of experts, being one of the most complete in the market. In this way, it stands out for the following characteristics:

- The development of case studies presented by Postgraduate Diplomas in Genetics, Precision Medicine and Childhood Illnesses
- 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 to perform the self-assessment process to improve the learning process
- 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

Advance your professional development and learn about the genetic bases that cause respiratory diseases in children"

Children have a respiratory system that is vulnerable to genetic alterations and environmental changes, update your knowledge in this area and improve your treatment of pediatric patients"

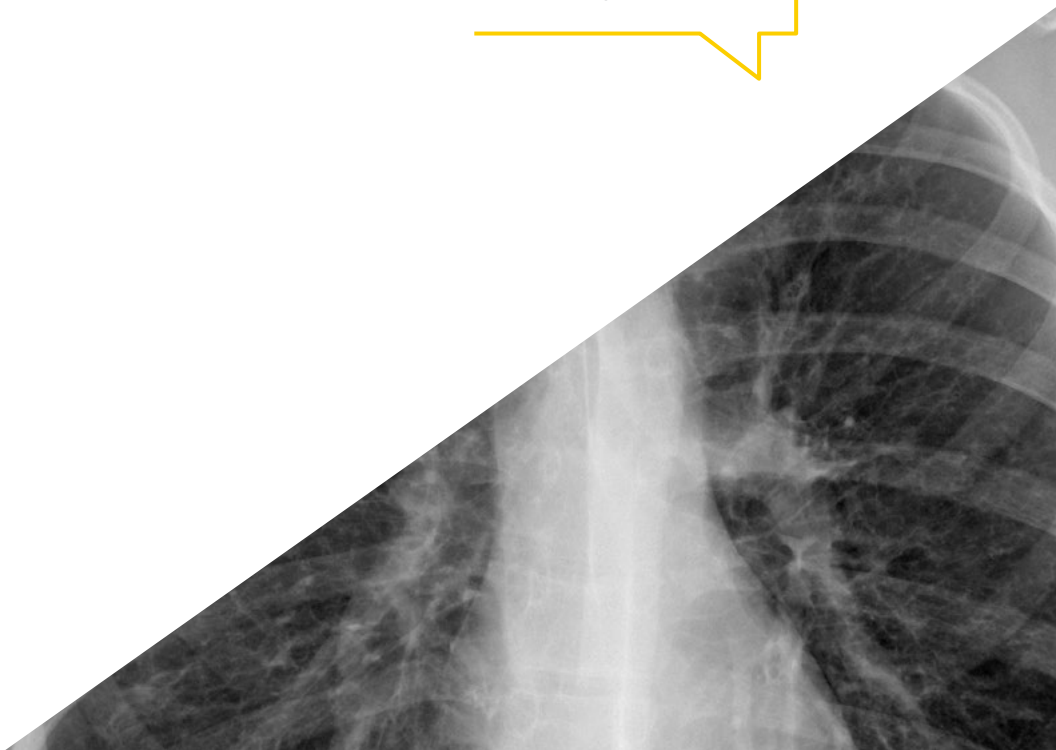
From anywhere in the world, take this Postgraduate Certificate in Genetics, Precision Medicine and Childhood Illnesses 100% online.

At all times you will have the support of a group of professionals who provide students with their knowledge and extensive work experience.

The program's teaching staff includes professionals from the sector who contribute their work experience to this training 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 training programmed to train 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 during the academic year. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.



02

Objectives

For this Postgraduate Certificate in Genetics, Precision Medicine and Childhood Illnesses, a program has been created to help students specialize and acquire new competencies. Consequently, the teachers' interest is to teach from a theoretical-practical perspective in order to strengthen knowledge in a dynamic way. To this end, TECH establishes a series of general and specific objectives for the greater satisfaction of the future graduate, those being the following:

Achieve your professional goals through dynamic learning with a practical approach"

General Objectives

- Provide in-depth knowledge on the genetic linkage of respiratory diseases.
- Interpret and generate knowledge with the information provided by primary and secondary sources in the area of Genetics
- Improve evaluation for prognosis and prevention of respiratory diseases.
- Understand the precision treatment of pulmonary pathology in the daily practice of medicine
- Acquire a solid knowledge of the different pulmonary pathologies and their genetic basis.

Specific Objectives

- In-depth understanding of genetic links to disease in the pediatric population.
- Delve into the implications of childhood congenital diseases on respiratory health during a person's lifetime
- Mastering the management of common genetic respiratory diseases
- Precision medicine in childhood asthma. Use of biologicals

Learn about the genetic linksof respiratory diseases in children and biological treatments in precision medicine"

03

Course Management

For TECH the important thing is to provide an elite education to all its students, so they have a teaching staff with extensive professional and research experience in the field of Genetics, Precision Medicine and Childhood Illnesses. In this way, they accompany students throughout the learning process, providing them with the best tools for the development of their abilities. In this way, the professional has the guarantees required to specialize at an international level in a booming sector that will catapult him/her to professional success.

The support of the professors throughout the Postgraduate Certificate in Genetics, Precision Medicine and Childhood Illnesses is fundamental to develop the students' skills"

International Guest Director

Dr. George Chaux is a medical professional with a strong background in Interventional Pulmonology, Lung Transplantation and Critical Care. With many years of experience in the healthcare industry, he has worked tirelessly to improve the quality of life of his patients through a multidisciplinary and specialized approach. In addition, his deep knowledge in the field of healthcare management and medical care has positioned him as a reference in his area, always at the forefront of the latest innovations in Pulmonary Medicine.

Throughout his career, he has worked in prestigious institutions, such as Cedars-Sinai Medical Center, where he has accumulated vast experience in the management of critical and complex cases. He has also been Medical Director at Providence St. John's Health Center, where he has led the development of Interventional Pulmonology and General Pulmonary Consulting services, applying advanced techniques that have made a significant difference in the care of his patients. In fact, his focus on excellence and innovation has allowed him to implement procedures that have optimized clinical outcomes in every intervention.

Internationally, Dr. George Chaux has been widely recognized for his contributions to Pulmonary Medicine. In this regard, he has been invited as a speaker at several global conferences on Lung Transplantation and Respiratory Diseases, having received numerous awards for his work in medical research and clinical practice.

Likewise, he has led research in the field of Genomic Precision Pulmonology and Big Data, exploring how these emerging technologies can revolutionize the diagnosis and treatment of Lung Diseases. Likewise, it is worth mentioning that he has published several articles in specialized journals, consolidating his position as a reference in the application of cutting-edge technologies in Respiratory Medicine.

Dr. Chaux, George

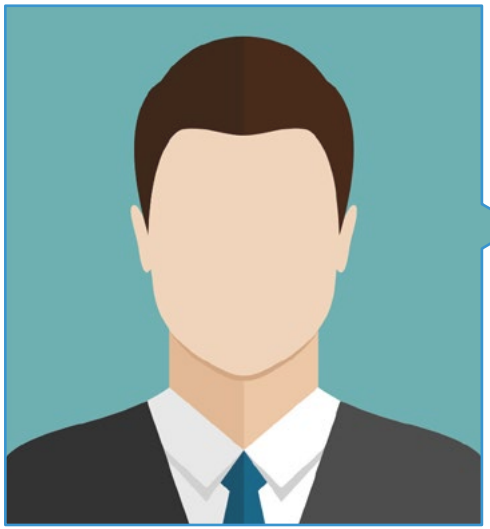
- Medical Director at Providence St. John's Health Center, California, United States
- Medical Director of the Interventional Pulmonology Program at Cedars-SinaiMedical Center
- Medical Director of the Lung Transplant Program at Cedars-Sinai Medical Center
- Medical Director of the Lung Transplantation Program at UC San Diego Health Medical Center
- Doctor of Medicine from Boston University
- B.S. in Biochemistry from Bowdoin University

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

Management

Dr. Puente Maestu, Luis

- Professor of Pneumology, Department of Medicine, Universidad Complutense de Madrid.
- Chief of the Pneumology Department of the Hospital Generaluniversitario Gregorio Marañón
- Degree in Medicine from the Complutense University of Madrid.
- Specialist in Pneumology, Complutense University of Madrid.
- Doctor *Cum Laude* in Medicine from the Complutense University of Madrid.
- Master's Degree in Design and Statistics in Health Sciences from the Autonomous University of Barcelona.
- University Master's Degree in Senior Management of Health Services and Business Management of the University of Alcala



Dr. De Miguel Díez, Javier

- Section Chief and Resident Tutor in the Pneumology Department of the Hospital General Universitario Gregorio Marañón.
- PhD in Medicine and Surgery from the Autonomous University of Madrid.
- Master's Degree in Healthcare Management
- University Master's Degree in Smoking
- Master's Degree in Advances in Diagnosis and Treatment of Airway Disease
- Postgraduate master's degree in Advances in Diagnosis and Treatment of Sleep Disorders
- Master's Degree in Advances in Diagnosis and Treatment of Diffuse Interstitial Lung Diseases
- Master in Pulmonary Hypertension and Master in Thrombotic Pathology.

Professors

Ms. Bellón Alonso, Sara

- Specialist Physician in the Pediatrics Service of the Gregorio Marañón University Hospital. Pediatric Pneumology Unit
- Graduate of the School of Medicine. University of Oviedo
- Bachelor's Degree in Medicine and Surgery at the School of Medicine. University of Oviedo

04

Structure and Content

The content structure for this Postgraduate Certificate in Genetics, Precision Medicine and Childhood Illnesses has been designed following the highest standards in this academic area. From the first class to the last, it has the approval of the teaching staff specialized in the field of Precision Medicine, allowing all students to broaden their knowledge to later apply it in any international environment.

The Postgraduate Certificate in Genetics, Precision Medicine and Childhood Illnesses has an academic program backed by the experience of an excellent group of specialists"

Module 1. Genetics, Precision Medicine and Childhood Illnesses

1.1. Cystic Fibrosis Epidemiology
  1.1.1. Genetically Based
1.2. Cystic Fibrosis in Children
  1.2.1. Manifestations
1.3. Cystic Fibrosis in Children
  1.3.1. Screening and Treatment. Primary Ciliary Dyskinesia
1.4. Genetic Links to Respiratory Distress in Newborns
  1.4.1. Bronchopulmonary Dysplasia
1.5. Duchenne and Becker Muscular Dystrophy
  1.5.1. Genetically Based
1.6. Duchenne and Becker Muscular Dystrophy
  1.6.1. Management and Prosistic
1.7. Respiratory Impairment in Sickle Cell Disease
1.8. Low Birth Weight and Respiratory Disease
1.9. Treatments Oriented to Specific Therapeutic Targets in Childhood Asthma
  1.9.1. Use of Biological Treatment in the Pediatric Population

Strengthens the Basis for Understanding Genetics in Childhood Respiratory Diseases and Learns New Patient-Centered Treatments"

05

Methodology

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

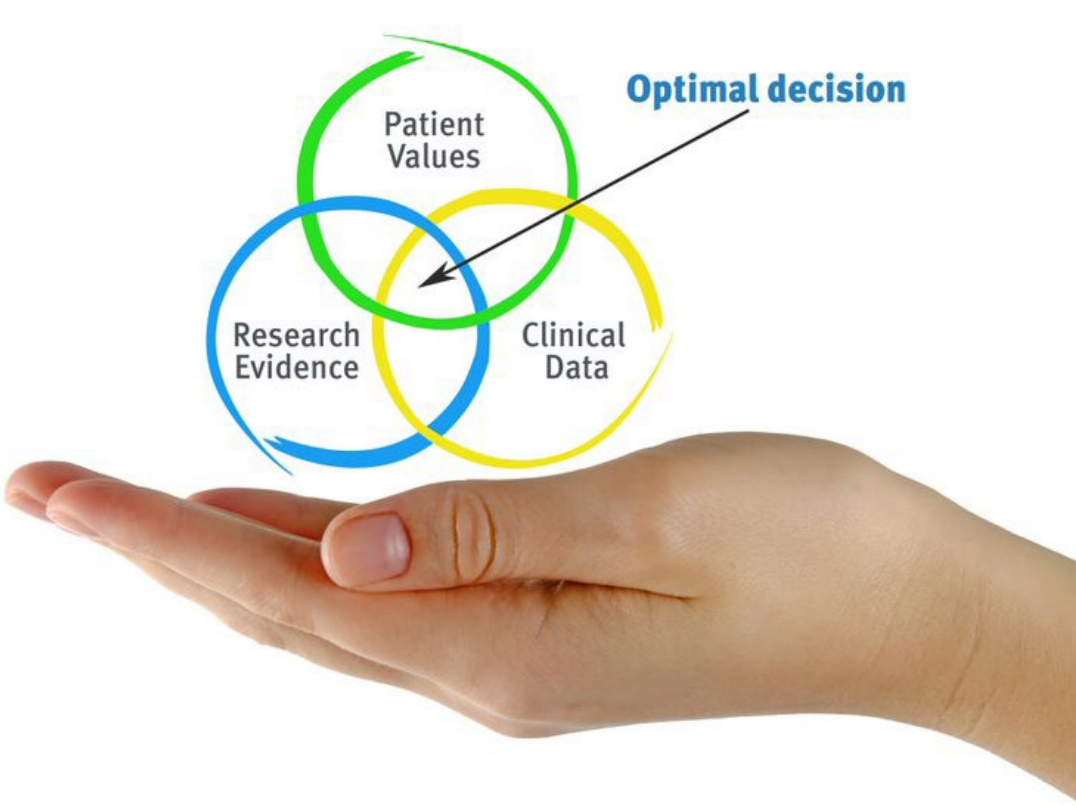
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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.

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:

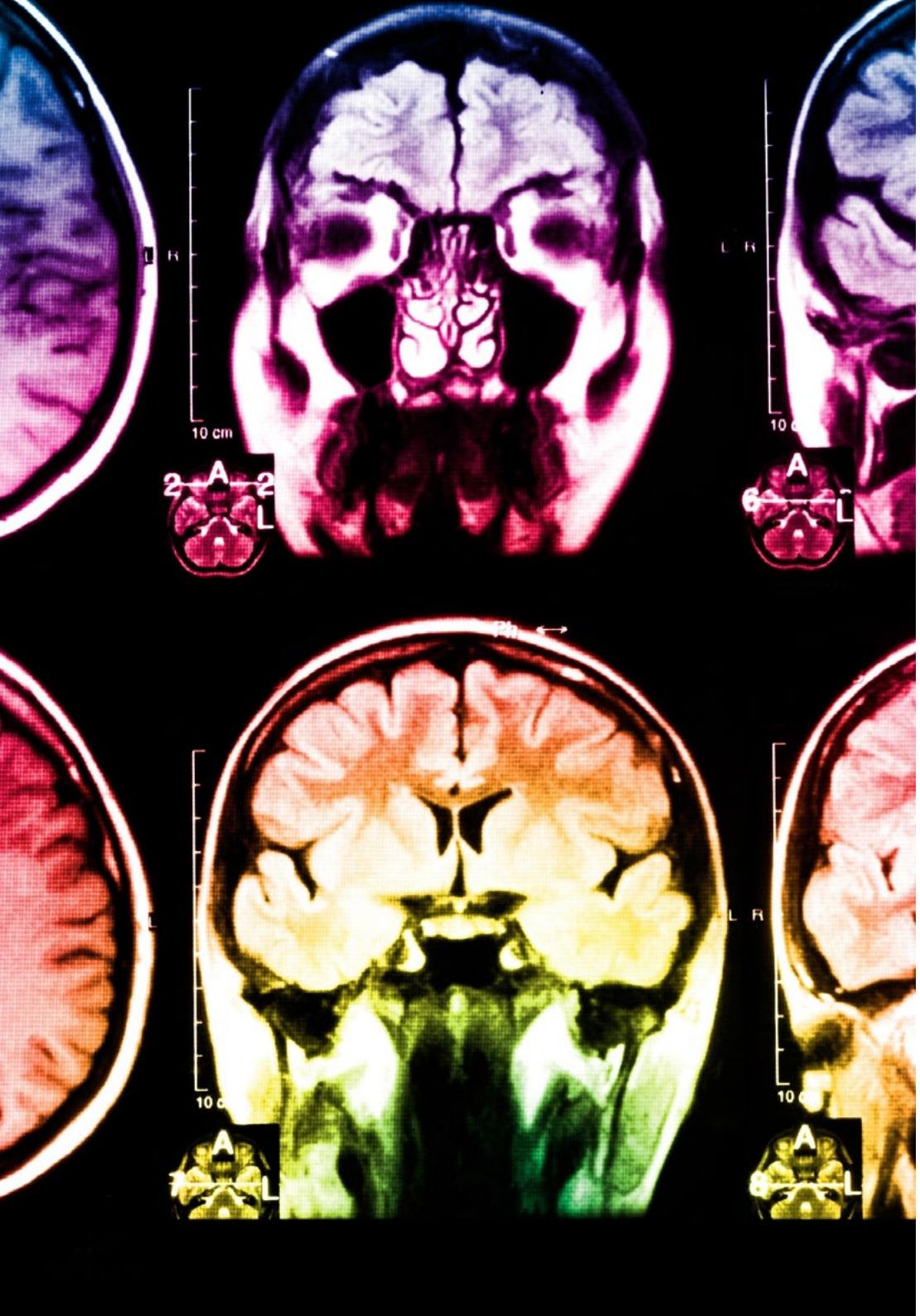
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better 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 applied to the 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.

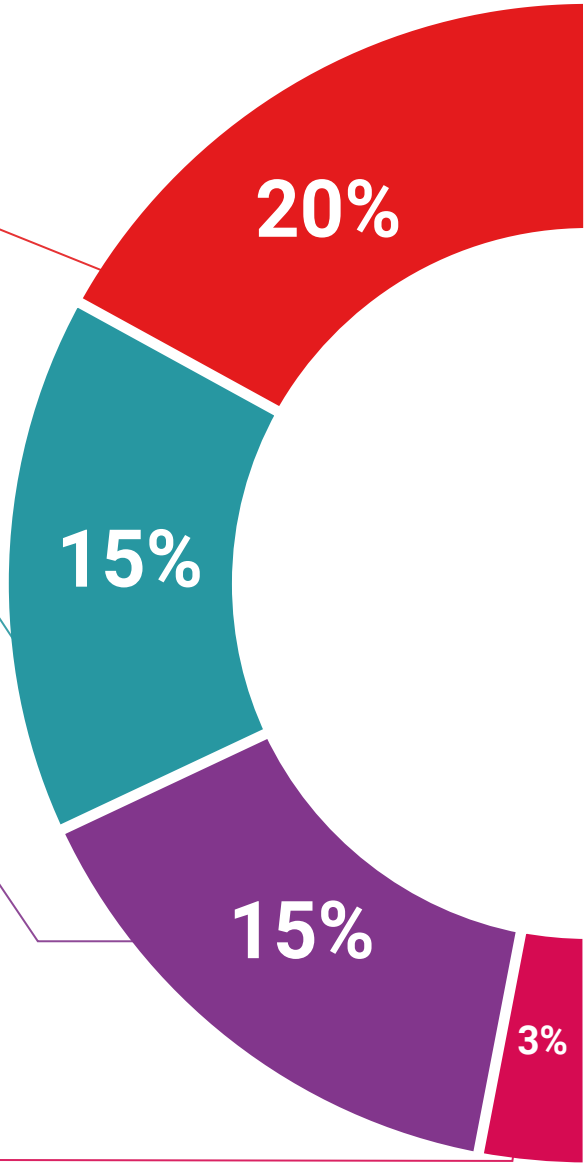
Interactive Summaries

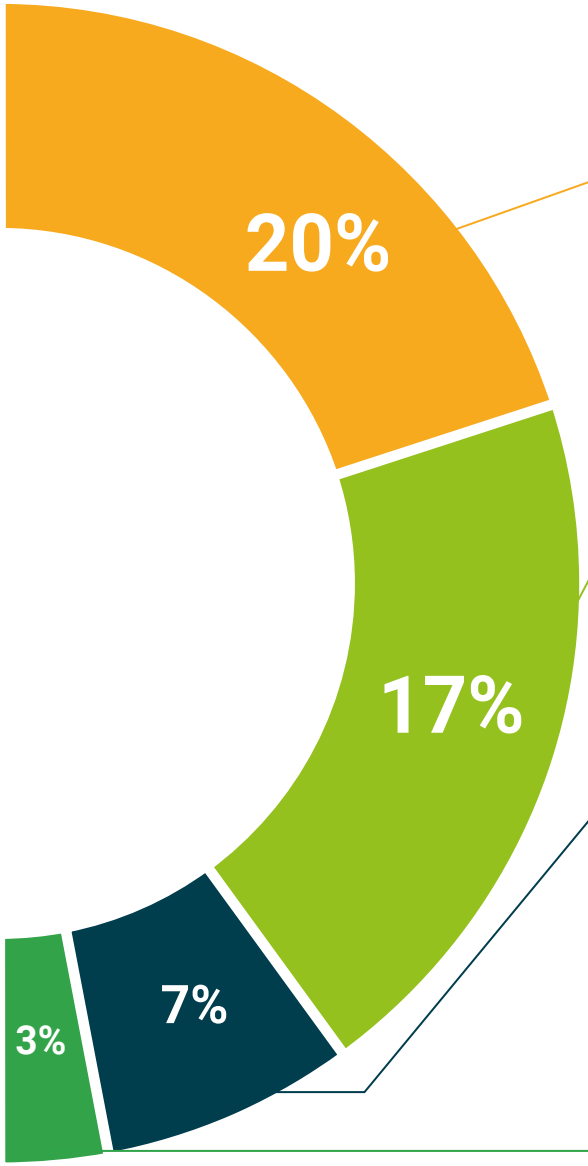
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 termed Learning from an Expert strengthens knowledge and recall capacity, and generates confidence in the face of difficult decisions in the future.

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 Certificate in Genetics, Precision Medicine and Childhood Illnesses guarantees, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by TECH Global University.

Successfully complete this training program and receive your university certificate without travel or laborious paperwork"

This program will allow you to obtain your **Postgraduate Certificate in Genetics, Precision Medicine and Childhood Diseases** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

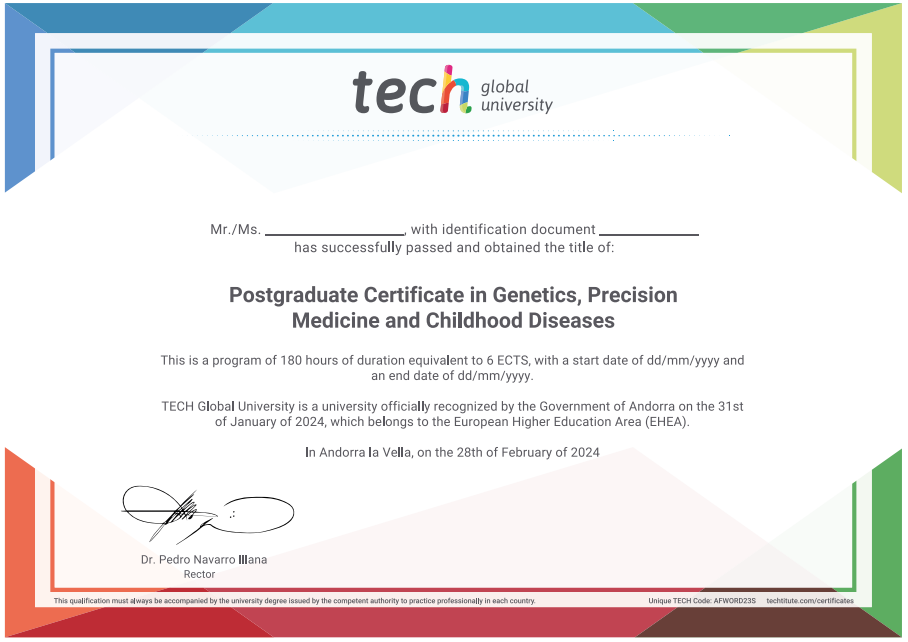
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Genetics, Precision Medicine and Childhood Diseases**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Certificate in Genetics, Precision Medicine and Childhood Diseases

This is a program of 180 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

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

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Postgraduate Certificate

Genetics, Precision Medicine and Childhood Diseases

- Modality: **online**
- Duration: **6 weeks**
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- Credits: **6 ECTS**
- Schedule: **at your own pace**
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Postgraduate Certificate

Genetics, Precision Medicine and Childhood Diseases

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