

Postgraduate Certificate

Big Data and Respiratory Diseases I





Postgraduate Certificate

Big Data and Respiratory Diseases I

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

Website: www.techtitute.com/us/medicine/postgraduate-certificate/big-data-respiratory-diseases-I

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01 Introduction

The use of technological tools in the study of Respiratory Diseases allows the professional to analyze not only clinical information of the patients, but also a series of non-relational data such as socio-ecological and environmental variables. With the development of Big Data, a source of reliable data that can be obtained quickly and easily was established, representing a great qualitative leap in the study of Respiratory Diseases. Thus, in the program on Big Data and Respiratory Diseases I, the usefulness of this program in the evaluation of the procedures used in these respiratory pathologies will be discussed. You will also get a broader view of the impact of environmental pollution and infectious diseases.



A close-up photograph showing a hand wearing a white latex glove touching a patient's skin. The skin is reddish and appears to be part of a medical procedure. The background is blurred, showing a clinical setting with green and blue tones.

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Respiratory Diseases can be diagnosed and treated more efficiently with the use of Big Data”

Handling large amounts of patient information in real time helps practitioners to raise the number of cases treated assertively, taking into account multiple variables that cannot be considered in a clinical trial. Taking advantage of this type of tools represents a qualitative leap in the treatment of Respiratory Diseases, allowing to adapt different treatments and to know how is the reaction to different drugs.

Big Data is known by all health professionals as a system that maintains an exponential growth with each passing year and that, in a fast and effective way, it is possible to have real-time information on patients, which allows to analyze individual and population health status to make better decisions regarding diagnoses and treatments.

Thus, this Postgraduate Certificate in Big Data and Respiratory Diseases I has been created to study in depth the applications that this program has in the study of the epidemiology of Respiratory Diseases. Students will be able to discuss evaluations of procedures focused on these pathologies and risk factors in certain populations.

As you progress through the Postgraduate Certificate, you will also get a broader view of the infectious origin of some Respiratory Diseases and the impact that environmental pollution has had over the years. For this purpose, we have a teaching staff and their training in this particular area of medicine, accompanying the student at all times and making available their extensive work experience.

A 100% online program that allows the student to take it comfortably, wherever and whenever he/she wants. All you need is a device with internet access to take your career one step further. In addition, it has a modality according to the current times with all the guarantees to position the doctor in a highly demanded sector.

The educational program in this **Postgraduate Certificate in Big data and Respiratory Diseases I** 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 experts in Big Data and Respiratory Diseases
- ♦ The graphic, schematic, and eminently 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-evaluation process can be carried out to improve learning
- ♦ 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



Learn about the applications of Big Data in the diagnosis and treatment of the world's most important Respiratory Diseases"

“ *Big Data is a fundamental tool for the development of precision medicine in patients with respiratory problems* ”

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.

With innovative methodologies and a self-assessment process, this program in Big Data and Respiratory Diseases boosts students' career path.

All the information you require is condensed in a program developed with experts in Big Data and Respiratory Diseases.



02 Objectives

Acquiring new skills is only possible by studying in depth the key aspects of the area of interest. Thus, this Postgraduate Certificate in Big Data and Respiratory Diseases has a program focused on promoting the professional from a global perspective to achieve the proposed objectives. Thus, he will develop all his skills in this field of medicine, which is increasingly in demand internationally. Based on the above, TECH has developed a series of general and specific objectives that perfectly meet the professional requirements of future graduates, being the following.





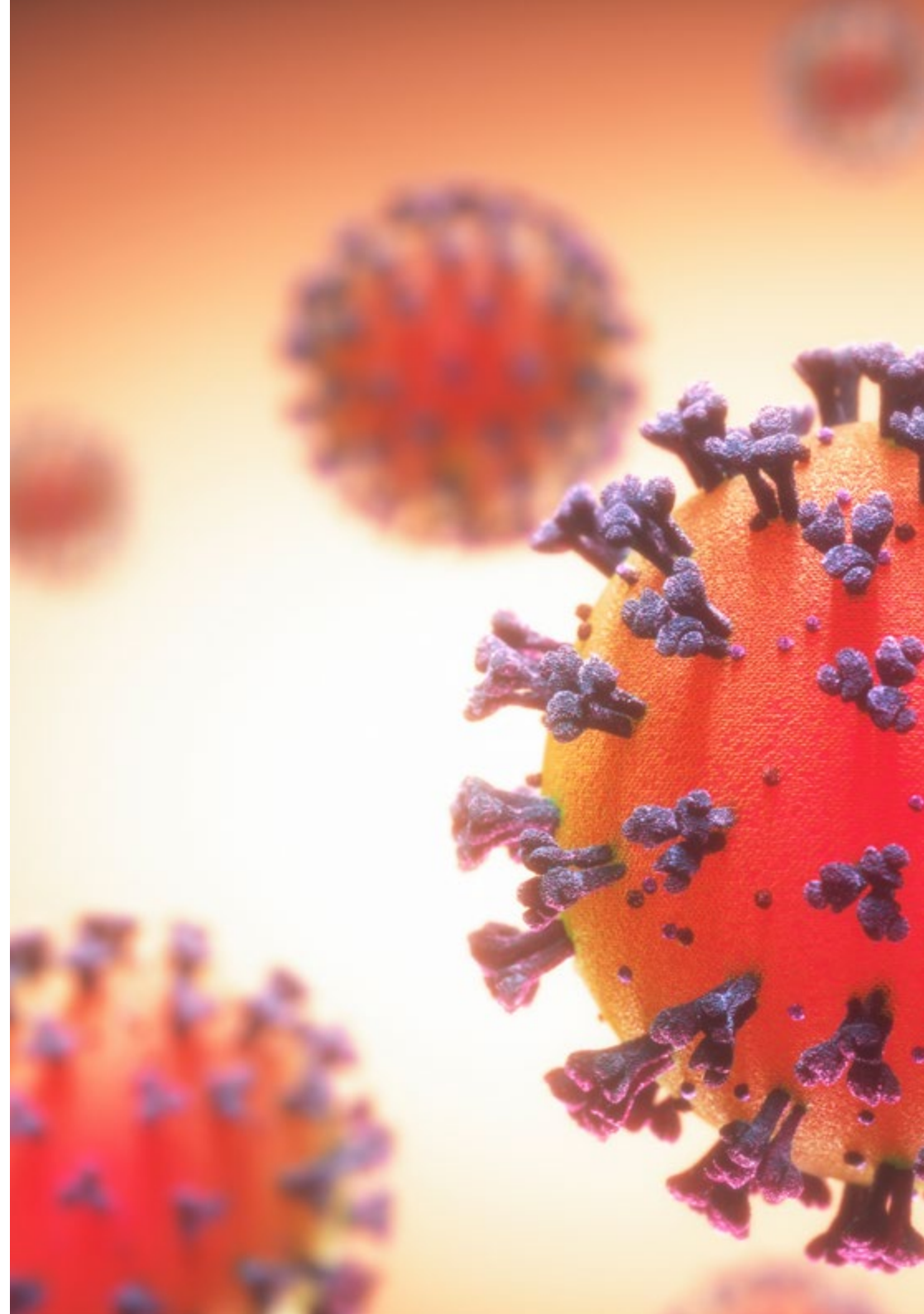
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Acquire new skills in Big Data and Respiratory Diseases, studying in depth the key aspects of this area"



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

Module 1: Big Data and Respiratory Diseases I

- ♦ Know the applications of Big Data in the study of the epidemiology of Respiratory Diseases
- ♦ Discuss the usefulness of Big Data in the evaluation of procedures used in respiratory pathology
- ♦ Explain how Big Data can help in the study of risk factors for Respiratory Diseases
- ♦ Describe the utility of Big Data in the management of obstructive diseases and sleep ventilation disorders

Module 2: Big Data and Respiratory Diseases II

- ♦ Know the usefulness of Big Data in the study of Respiratory Diseases of infectious origin
- ♦ Discuss the use of Big Data to assess the impact of environmental pollution on respiratory infections
- ♦ Study in depth the importance of Big Data in the evaluation of other Respiratory Diseases such as pleural pathology, lung cancer, interstitial diseases, pulmonary thromboembolism and pulmonary hypertension
- ♦ Describe the applications of Big Data in the field of Neonatal Onset Respiratory Diseases

03 Course Management

For TECH it will always be important to provide an elite education that meets the strict standards of the market. In this way, it is supported by an excellent teaching team, highly trained and with extensive work experience in Big Data and Respiratory Diseases. For this reason, they accompany the student at all times and provide the necessary tools for the development of their skills, so that the professional has the guarantees required to specialize internationally in a booming sector that will catapult him/her to professional success.



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Specialize in a sector that is in high demand at a professional level with the experience of a recognized teaching staff"

Management



Dr. Puente Maestu, Luis

- Professor of Pneumology, Department of Medicine, Universidad Complutense de Madrid.
- Chief of the Pneumology Department of the Hospital General Universitario 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 Alcalá



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

Dr. González, Francisco Javier

- ◆ Director of the High Complexity Asthma Specialized Unit - University Clinical Hospital of Santiago de Compostela
- ◆ Specialist in Pulmonology University Clinical Hospital of Santiago de Compostela
- ◆ Associate Professor of Health Sciences. University of Santiago de Compostela
- ◆ Member of the editorial board of the International Journal of Environmental Research and Public Health

Dr. España Yandiola, Pedro Pablo

- ◆ Head of the Medical/Technical Service, Pneumology Department, Hospital Galdakao-Usánsolo, Basque Country
- ◆ Degree in Medicine and Surgery from the University of the Basque Country
- ◆ Doctor of Medicine and Surgery, University of the Basque Country
- ◆ Professional Master's Degree in Clinical Units Management



04 Structure and Content

To meet the high standards of the teaching team, a program has been developed that covers the focal points of Big Data and Respiratory Diseases, offering a broad perspective on this area of medicine, imparting knowledge from a global view. This motivates students not only to apply what they have learned in their work environments, but also shows them how this field works in an international context. From module 1, the professional will see his or her knowledge broadened, which will enable him or her to develop professionally, knowing that he or she has the support of a team of experts.





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Learn with a program developed to boost the capabilities of its students in an international working environment and with a seal of quality”

Module 1. Big Data and Respiratory Diseases I

- 1.1. Big Data and Epidemiology of Respiratory Diseases
- 1.2. Big Data and Bronchoscopy
- 1.3. Big Data and Non-Invasive Mechanical Ventilation
- 1.4. Big Data and Invasive Mechanical Ventilation
- 1.5. Big Data and Tobacco Use
- 1.6. Big Data and Air Pollution
- 1.7. Big Data and Asthma
- 1.8. Big Data and EPOC
- 1.9. Big Data and Sleep Apnea-Hypopnea Syndrome
- 1.10. Big Data and Hypoventilation-Obesity Syndrome

Module 2. Big Data and Respiratory Diseases II

- 2.1. Big Data and Community Pneumonia
- 2.2. Big Data and Nosocomial Infection
- 2.3. Big Data and Tuberculosis
- 2.4. Big Data, Environmental Pollution and Respiratory Infection
- 2.5. Big Data and COVID-19
- 2.6. Big Data, Pleural Diseases, and Lung Cancer
- 2.7. Big Data and Interstitial Lung Diseases
- 2.8. Big Data and Thromboembolic Disease
- 2.9. Big Data and Pulmonary Hypertension
- 2.10. Big Data and Neonatal-Onset Respiratory Diseases



A program that has been specially designed to meet the academic demands of professionals"



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.

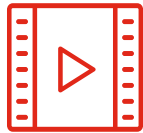
Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

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 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

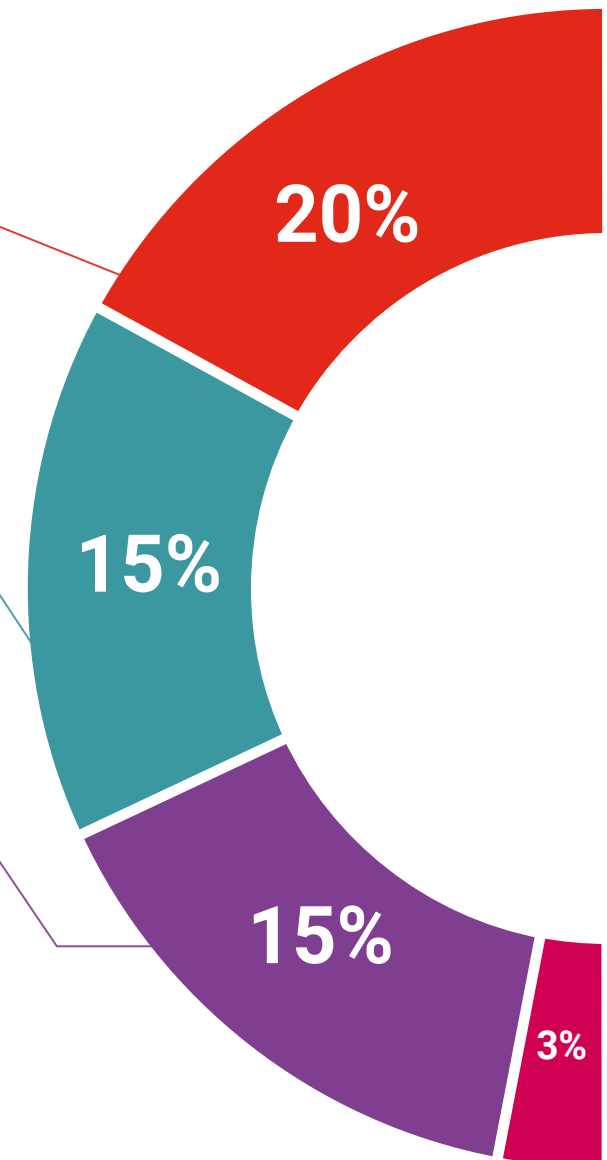
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

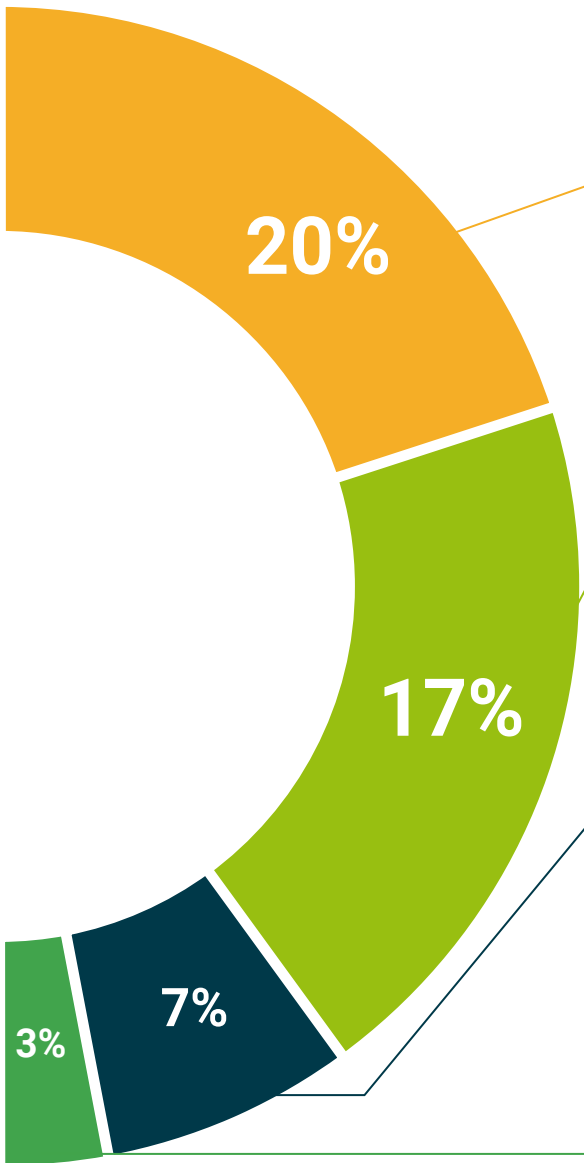
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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 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 Certificate in Big Data and Respiratory Diseases I guarantees you, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by TECH Technological University.



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Successfully complete this training and receive your university degree without travel or laborious paperwork”

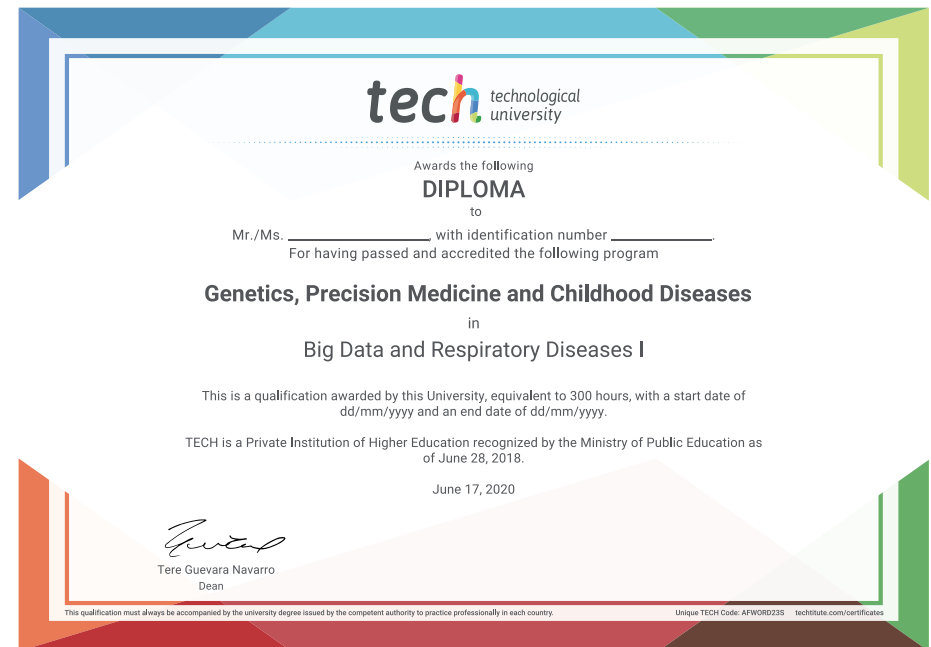
This **Postgraduate Certificate in Big Data and Respiratory Diseases I** contains the most complete and up-to-date scientific program on the market.

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

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

Title: **Postgraduate Certificate in Big Data and Respiratory Diseases I**

Official N° of Hours: **300 h.**



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



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