

# Postgraduate Certificate

Pathophysiological  
Consequences of COPD  
Pulmonary Restriction and  
Respiratory Rehabilitation  
for Physicians



## Postgraduate Certificate

### Pathophysiological Consequences of COPD Pulmonary Restriction and Respiratory Rehabilitation for Physicians

Course Modality: **Online**

Duration: **6 weeks**

Certificate: **TECH - Technological University**

**6 ECTS Credits**

Teaching Hours: **150 hours**

Website: [www.techtute.com/us/medicine/postgraduate-certificate/pathophysiological-consequences-copd-pulmonary-restriction-respiratory-rehabilitation-physicians](http://www.techtute.com/us/medicine/postgraduate-certificate/pathophysiological-consequences-copd-pulmonary-restriction-respiratory-rehabilitation-physicians)

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# 01

# Introduction

COPD disease requires specific respiratory rehabilitation to improve the health of patients affected by the disease, so it is necessary for physicians working in this field to acquire advanced training to enable them to apply the main therapeutic developments in this field. If you want to obtain the necessary skills to treat these patients with confidence, don't think twice and join our student community.





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*The higher specialization of rehabilitation medicine professionals in COPD is a current demand that we want to solve with the offer of this very complete course"*



In Spain, COPD affects approximately 10% of the population. In this very complete Postgraduate Certificate, we address the causes of this incidence in the country and also teach rehabilitation physicians the correct management of these pathologies and their approach through the different existing techniques, after a correct assessment has been carried out to effectively define our therapeutic practice.

In this way, medical professionals will have the opportunity to access the latest content in this branch of healthcare, thanks to which they will be able to increase their training and improve the care of their patients, achieving great benefits in their respiratory rehabilitation.

Respiratory physiotherapy is part of physiotherapy, but focusing on the pathophysiology of the respiratory system, both medical and surgical, requiring a demanding knowledge of the respiratory system and the existing techniques for its treatment, healing and stabilization. For this reason, highly trained professionals are required to offer personalized treatments that allow patients to recover effectively.

The Postgraduate Certificate has specialised teaching staff in Respiratory Physiotherapy, who contribute both their practical experience from their day-to-day work in practice, as well as their extensive experience in teaching at a national and international level. In addition, it has the advantage of being a 100% online training, so the student can decide when and where to study. This way, you will be able to flexibly self-direct your study hours.

This **Postgraduate Certificate in Pathophysiological Consequences of COPD Pulmonary Restriction and Respiratory Rehabilitation for Physicians** contains the most complete and up-to-date scientific program on the market. The most important features of this course include:

- Clinical cases presented by experts in Respiratory Physiotherapy.
- 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.
- The presentation of practical workshops on procedures and techniques.
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course.
- Action protocols and clinical practice guidelines, which cover the most important and latest developments in this specialist area.
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.
- Special emphasis on test-based medicine and research methodologies.
- Content that is accessible from any fixed or portable device with an Internet connection.



*This Postgraduate Certificate is the best option you can find to increase your knowledge about Respiratory Physiotherapy and add a plus to your professional career"*

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*This course is the best investment you can make when studying a specialist course to update your knowledge in Respiratory Physiotherapy”*

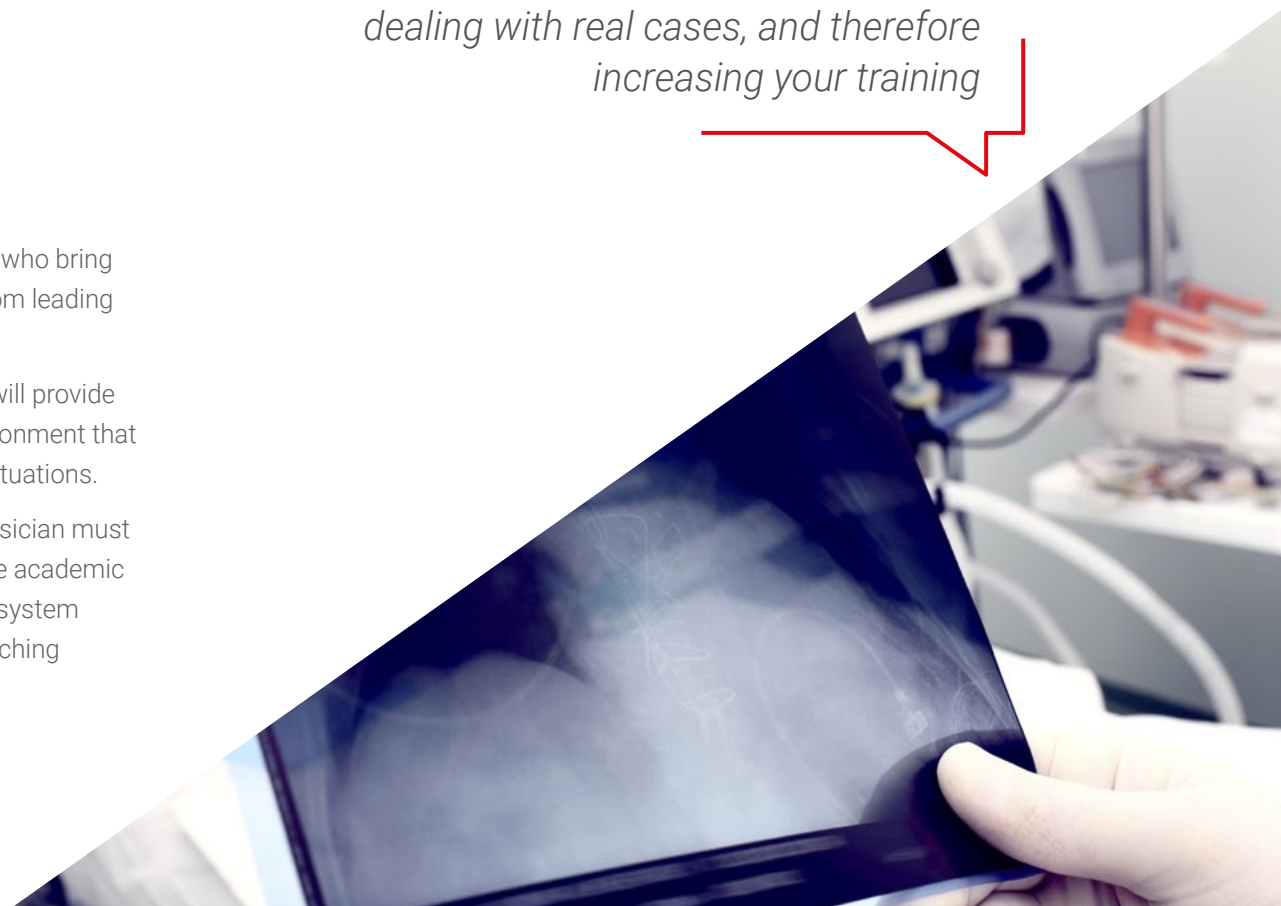
*This 100% online Postgraduate Certificate will allow you to study from anywhere in the world. All you need is a computer or mobile device with an internet connection*

*Our innovative teaching methodology will allow you to study as if you were dealing with real cases, and therefore increasing your training*

The teaching staff includes a team of rehabilitation medicine professionals, who bring their experience to this training program, as well as renowned specialists from leading scientific societies.

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 an immersive training experience designed to train for real-life situations.

This program is designed around Problem Based Learning, whereby the physician must try to solve the different professional practice situations that arise during the academic year. For this reason, you will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field with extensive teaching experience.



# 02 Objectives

The Postgraduate Certificate in Respiratory Consequences of COPD Pulmonary Restriction and Respiratory Rehabilitation is aimed at facilitating the medical professional's performance with the latest advances and most innovative treatments in the sector. Its objective is to take you through a training that will allow you to acquire the most updated knowledge for the most advanced and competitive praxis in this field.







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*With a real practical objective, this course will allow you to achieve your training goals by boosting your CV to a higher level of excellence”*



## General Objectives

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- To promote specialization in respiratory physiotherapy.
- To update knowledge and manage physiotherapy in different patients with respiratory pathologies.
- Possess knowledge of the pathophysiology and advanced exploration of the respiratory system.
- Execute, direct and coordinate the respiratory physiotherapy intervention plan for each patient.

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*Highly specialized objectives  
in a training course created to  
train the best professionals in  
Respiratory Physiotherapy”*







## Specific Objectives

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- ♦ Delve into the causes of COPD.
- ♦ Manage the pathology of COPD.
- ♦ Use the different techniques for a correct assessment.
- ♦ Manage the different respiratory trainings.
- ♦ Delve into the different rehabilitation programs for respiratory diseases.

03

# Course Management

The materials in the course have been created by a team of leading professionals in Respiratory Physiotherapy, who work in the main reference hospitals, bringing to the program the experience they have gained in their jobs throughout their careers.





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*The best professionals in this area have joined forces to offer you the most specialized and up-to-date knowledge in the field"*



## Management



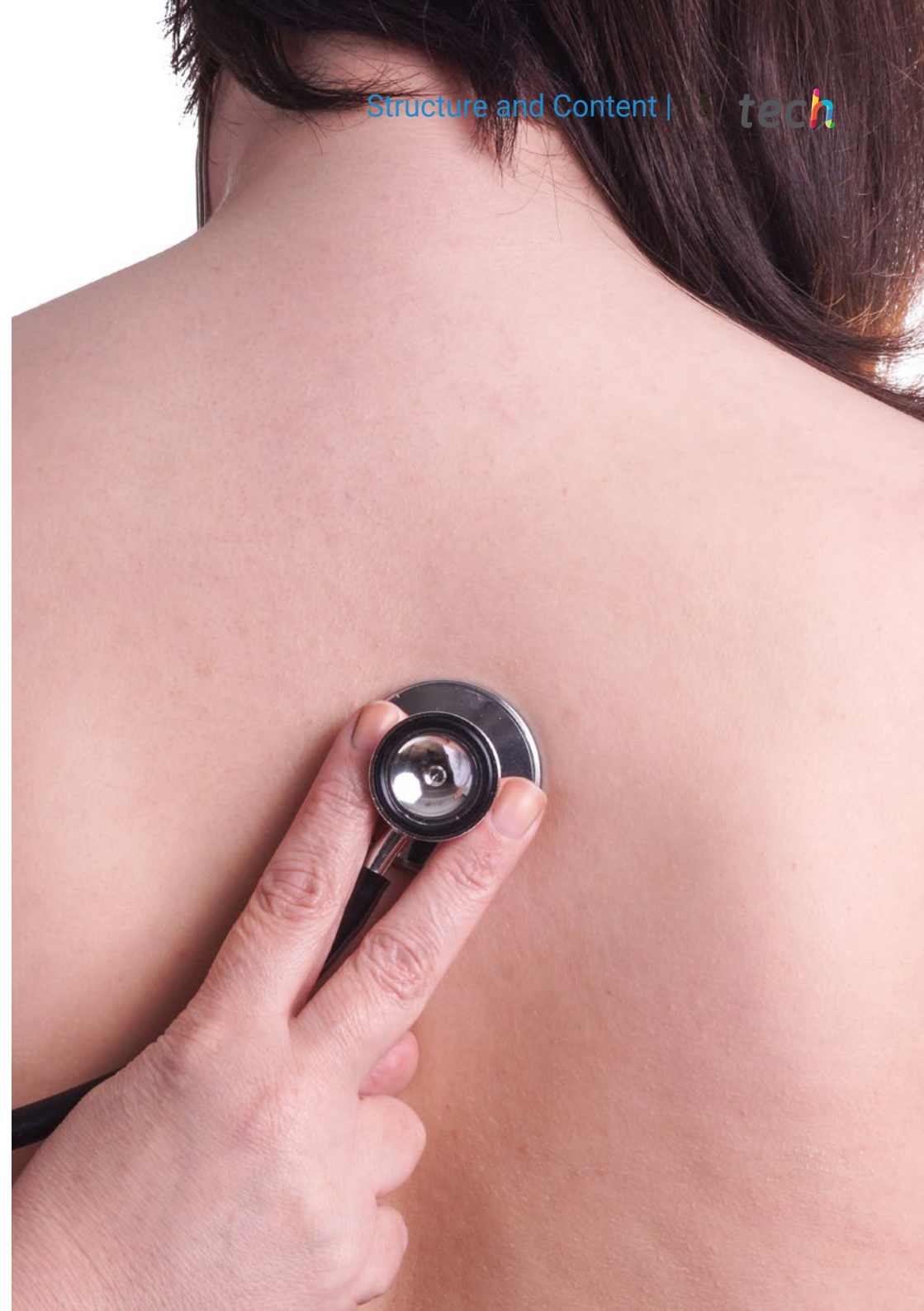
### García Coronado, Luis Pablo

- Physiotherapist at La Paz University Hospital
- Supervisor of the Physiotherapy Department at La Paz University Hospital.
- Specialist in sports Physiotherapy, Re-training, electrotherapy, Pilates and Therapeutic exercise.
- Director at Fisioespaña C. B.
- Director at Fisioganas S.L.
- Director at Pilates Wellness & Beauty S.L.

## Professor

### Peroy Badal, Renata

- ♦ Physiotherapist in charge of Respiratory Rehabilitation for COPD patients. Virgen de la Torre Hospital.
- ♦ Respiratory physiotherapy in critical patients admitted to the ICU and in pre- and postoperative patients undergoing abdominal surgery discharged from the inpatient unit.
- ♦ Respiratory physiotherapy in adult and pediatric patients with spinal cord injuries and different neuromuscular pathologies associated with respiratory disorders
- ♦ Degree in Physiotherapy: 1996-1999 Gimbernat University School of Nursing and Physiotherapy (Autonomous University of Barcelona)
- ♦ Graduate in Physiotherapy: 2013-2014 Complutense University of Madrid with the dissertation "Health Education in Respiratory Rehabilitation in COPD in primary care".
- ♦ Official Master's Degree in Respiratory and Cardiac Physiotherapy: 2015-2016. ONCE University School of Physiotherapy (Complutense University of Madrid)
- ♦ D.U EN KINESITHERAPIE RESPIRATORIE ET CARDIOVASCULAIRE: 2007-2008. Claude Bernard-Lyon University with the article "Education on Upper Abdominal Surgery: Patient-Physiotherapist Co-construction of a Therapy Booklet"



# 04

# Structure and Content

The structure of the syllabus has been designed by a team of professionals who understand the implications of medical training in the approach to patients, who are aware of the relevance of current training and are committed to quality teaching through new educational technologies.







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*A very complete syllabus that will take you gradually through each and every one of the lessons that the Respiratory Physiotherapy professional needs. With an added bonus: the commitment to excellence that characterizes us"*

## Module 1. Pathophysiological Consequences of COPD Pulmonary Restriction and Respiratory Rehabilitation

- 1.1. Prevalence of COPD and Chronic Respiratory Diseases
  - 1.1.1. Prevalence of COPD in Spain
  - 1.1.2. Prevalence of COPD Globally
- 1.2. COPD
  - 1.2.1. COPD Definition
  - 1.2.2. COPD Treatment
- 1.3. Respiratory Rehabilitation
  - 1.3.1. Definition of Respiratory Rehabilitation
  - 1.3.2. Components of Respiratory Rehabilitation
- 1.4. Assessment of the Respiratory Patient Before, During and After Respiratory Rehabilitation
  - 1.4.1. Dyspnea Evaluation
  - 1.4.2. Assessment of Exercise Tolerance
  - 1.4.3. Assessment of Respiratory Muscle Strength
- 1.5. Exercise Training
  - 1.5.1. Overload
  - 1.5.2. Specificity
  - 1.5.3. Adaptation
- 1.6. Aerobic Training
  - 1.6.1. Parts of the Aerobic Training Session
  - 1.6.2. The Fiit Principle
  - 1.6.3. How Training Should be Conducted







- 1.7. Muscle Strengthening
  - 1.7.1. Assessment of Peripheral Musculature
  - 1.7.2. How Training Should be Conducted
- 1.8. Respiratory Muscle Training
  - 1.8.1. Devices for Strengthening the Respiratory Musculature
  - 1.8.2. How Training Should be Conducted
- 1.9. Physical Activity
  - 1.9.1. Physical Exercise Evaluation
  - 1.9.2. Physical Activity Adherence
- 1.10. Respiratory Rehabilitation Programs in Respiratory Diseases other than COPD
  - 1.10.1. Programs in Pulmonary Fibrosis
  - 1.10.2. Bronchiectasis Programs

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*A unique, key and decisive  
specialization to boost your  
professional development”*

05

# Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used 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 Re-learning, 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

In a given situation, what would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you can experience a way of learning that is shaking the foundations of traditional universities around the world*



According to Dr. Gervas, 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 potential 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 professional medical 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 grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on 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.





## Re-learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.



*The physician will learn through real cases and by solving 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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Re-learning 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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by our learning system is 8.01, according to the highest international standards.



In this program you will have access to the best educational material, prepared with you in mind:



#### Study Material

All the teaching materials are specifically created for the course, by specialists who teach on the course, so that the teaching content is highly specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### Interactive Summaries

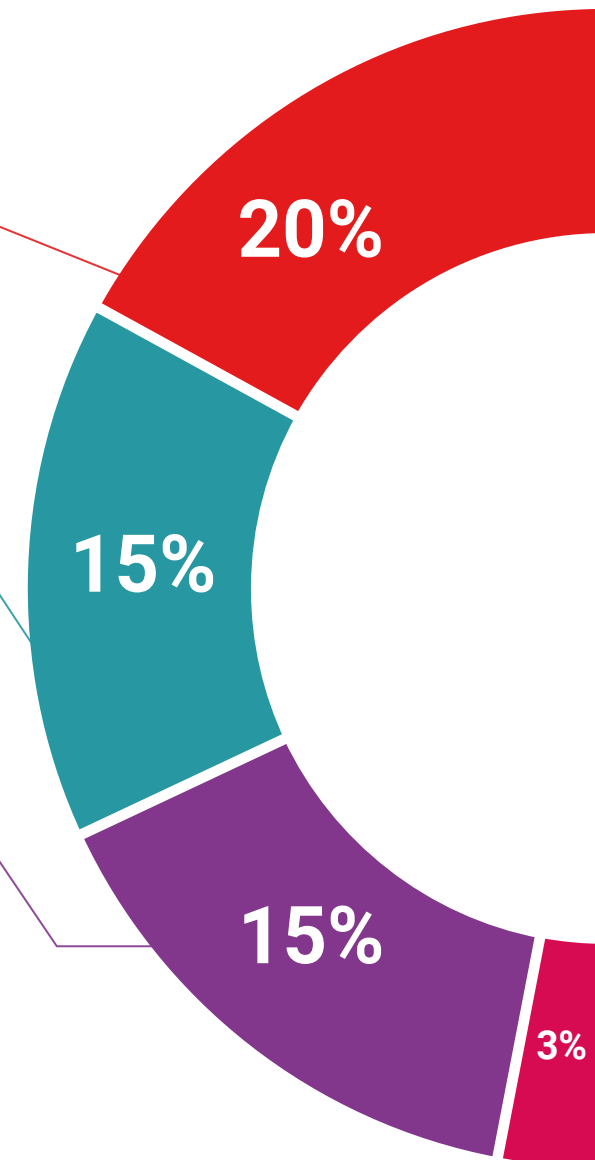
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.





**Expert-Led Case Studies and Case Analysis**

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



**Testing & Re-Testing**

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.



**Classes**

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory and generates confidence in our future difficult decisions.



**Quick Action Guides**

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.





06

# Certificate

The **Postgraduate Certificate in Pathophysiological Consequences of COPD Pulmonary Restriction and Respiratory Rehabilitation for Physicians** 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 specialization and receive your university qualification without travel or laborious paperwork"*

This Postgraduate Certificate in Pathophysiological Consequences of COPD Pulmonary Restriction and Respiratory Rehabilitation for Physicians contains the most complete and up-to-date scientific program on the market.

After students have passed the evaluations, they will receive their corresponding Postgraduate Certificate issued by TECH Technological University via tracked delivery\*.

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

Title: Postgraduate Certificate in Pathophysiological Consequences of COPD Pulmonary Restriction and Respiratory Rehabilitation for Physicians

ECTS: 6

Official Number of Hours: 150 hours.



\*Apostille Convention. In the event that the student wishes to have their paper diploma Apostilled, TECH EDUCATION will make the necessary arrangements to obtain it at an additional cost of €140 plus shipping costs of the Apostilled diploma.

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Consequences of  
COPD Pulmonary  
Restriction and  
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Course Modality: Online

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Certificate: TECH - Technological University

6 ECTS Credits

Teaching Hours: 150 hours

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