



# Postgraduate Certificate TOHB in Pain, Rheumatic Pathology and Medical Clinic

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

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# tech 06 | Introduction

There is currently a resurgence in the use of hyperbaric oxygenation treatment (HBOT) as an adjuvant tool in different medical specialties. The creation of new generation hyperbaric chambers which are easier to use, more affordable and easier to install in public and private health institutions, has led different professionals to incorporate this tool into their daily practice.

This Postgraduate Certificate in HBOT in Pain, Rheumatic Pathology and Medical Clinic explains, through experimental evidence, the effect of hyperbaric oxygen in neuropathic pain. Thus, the basis for the potential applications of HBOT in pathologies and situations involving this type of pain is known.

The evidence of HBOT with low pressures in altitude sickness is also developed in this educational program, in order to incorporate this treatment in the therapeutic approach to altitude sickness.

The basis and evidence of HBOT on anti-inflammatory effect, ischemia reperfusion injury and antioxidant effect are presented. In addition, evidence is shown in inflammatory bowel disease, tinnitus tinnitus and in different inflammatory-based pathologies.

On the other hand, the contribution of the physiological effects of HBOT in preventive medicine is analyzed according to the emerging evidence in different metabolic diseases. In this way, future applications in different specialties and inflammatory and metabolic diseases of great impact on health could be considered in this Postgraduate Certificate.

This Postgraduate Certificate in HBOT in Pain, Rheumatic Pathology and Medical Clinic contains the most complete and up-to-date scientific program on the market. The most important features include:

- Development of practical cases presented by experts in Hyperbaric Medicine.
- 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.
- Developments in Hyperbaric Medicine.
- Practical exercises where self-assessment can be used to improve learning.
- Special emphasis on innovative methodologies in Hyperbaric Medicine.
- 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



Don't miss the opportunity to study at the largest private online university in the Spanish-speaking world".



This Postgraduate Certificate is the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in HBOT in Pain, Rheumatic Pathology and Clinical Medicine, you will obtain a degree endorsed by the educational institution in Spain, TECH Technological University".

It includes in its teaching staff professionals belonging to the field of Hyperbaric Medicine, who pour into this specialization the experience of their work, in addition to recognized specialists from reference societies and prestigious universities.

Its multimedia content, elaborated with the latest educational technology, will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive specialization programmed to train in real situations.

This program is designed around Problem Based Learning, whereby the specialist 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 developed by renowned and experienced experts in TOHB in Pain, Rheumatic Pathology and Medical Clinic.

This specialisation comes with the best didactic material, providing you with a contextual approach that will facilitate your learning.

This Postgraduate Certificate 100% online and will enable you to combine your studies while increasing your knowledge in this field.



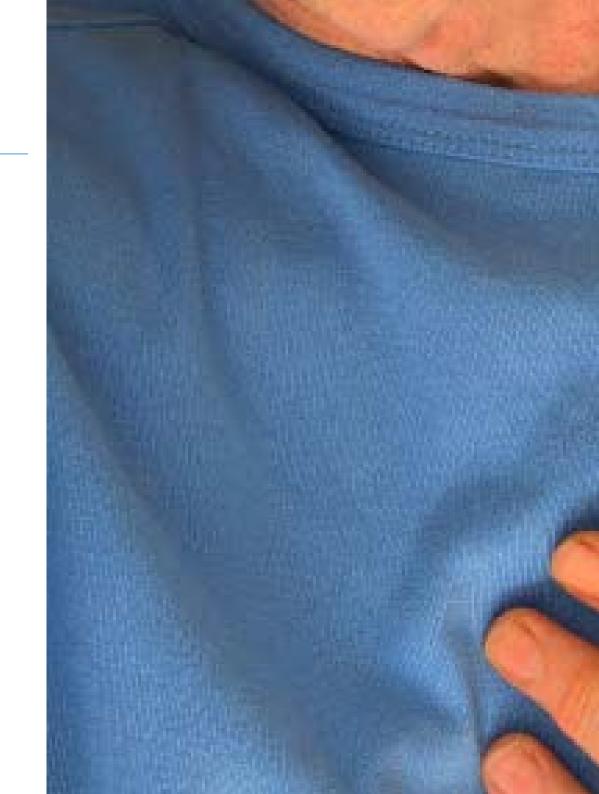


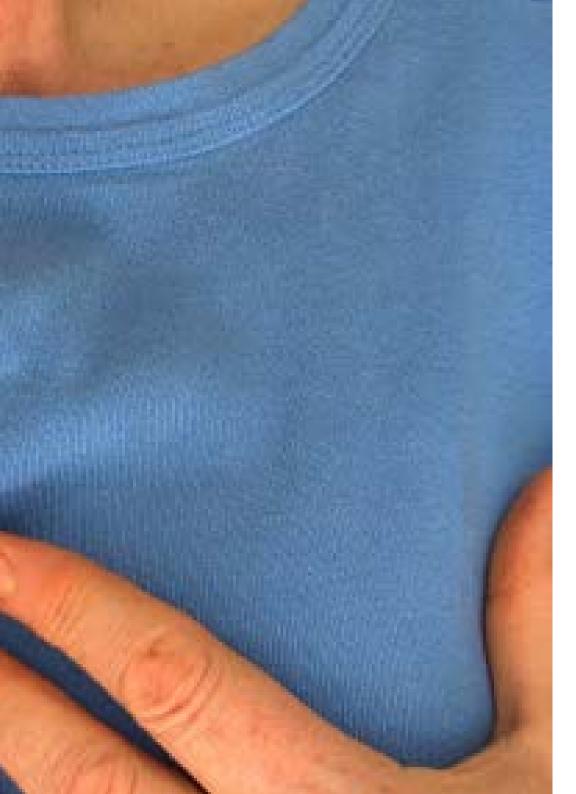
# tech 10 | Objectives



## **General Objectives**

- Promote the usefulness of hyperbaric oxygenation treatment in different medical specialties.
- Train health professionals on the foundations, mechanisms of action, indications, contraindications and applications of hyperbaric oxygen.
- Study the degree of evidence published and the recommendations and indications of the different scientific societies related to Hyperbaric Medicine.
- Recognise the potential applications of hyperbaric oxigen in different clinical cases and the benefits that can be achieved with the treatment, as well as performing the indication and detection of the contraindications.



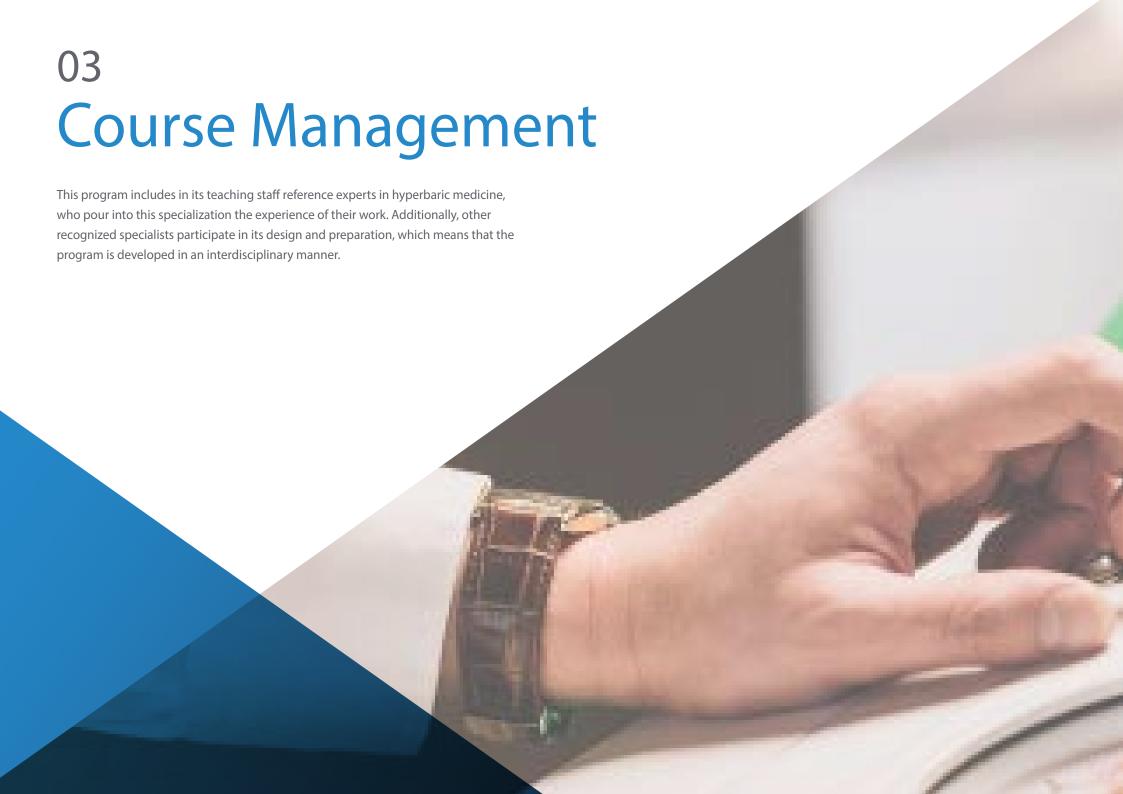


# Objectives | 11 tech



# Specific Objectives

- Describe the effect and scientific evidence of HBOT on altitude sickness.
- Demonstrate the mechanism of hyperbaric oxygen on analgesia and experimental evidence.
- Training on the application of HBOT in rheumatic diseases and neurosensitive syndromes
- Discuss the possible application in the prevention of metabolic pathologies, with an inflammatory component or ischemia-reperfusion injury.
- Present the experience of HBOT in clinical cases of chronic pain, intoxications and clinical medicine.





#### International Guest Director

Dr. Peter Lindholm is an eminence in Hyperbaric Medicine and the approach to Respiratory Disorders. His research has been focused on the Pathophysiology of Lung Diving, exploring topics such as Hypoxia and loss of consciousness.

Specifically, this expert has analyzed in depth the effects of the medical condition known as Lungsqueeze, frequent in divers. Among his most important contributions in this area is a detailed review of how glossopharyngeal breathing can extend lung capacity beyond normal limits. In addition, he described the first case series linking glossopharyngeal insufflation with cerebral gas embolism.

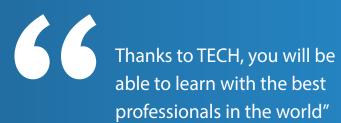
At the same time, he has been a pioneer in proposing the term Tracheal Squeeze as an alternative to pulmonary edema in divers who bleed after deep dives. On the other hand, the specialist has shown that exercise and fasting before diving increase the risk of loss of consciousness, similar to hyperventilation. In this way, he has developed an innovative method to use Magnetic Resonance Imaging in the diagnosis of Pulmonary Embolism. In the same way, he has delved into new techniques for measuring hyperbaric oxygen therapy.

Dr. Lindholm also serves as Director of the Endowed Gurneee Chair of Diving and Hyperbaric Medicine Research in the Department of Emergency Medicine at the University of California, San Diego, United States. Likewise, this renowned expert spent several years at Karolinska University Hospital. In that institution he worked as Director of Thoracic Radiology. He also has vast experience in diagnosis by means of clinical imaging based on radiation, and has even given lectures on the subject at the prestigious Karolinska Institute in Sweden. He is also a regular speaker at international conferences and has numerous scientific publications.



# Dr. Lindholm, Peter

- Chair of Hyperpathic Medicine and Diving at the University of California, San Diego, United States
- Director of Thoracic Radiology at the Karolinska University Hospital
- Professor of Physiology and Pharmacology at Karolinska Institute in Sweden
- Reviewer for international scientific journals such as American Journal of Physiology and JAMA
- Medical Residency in Radiology at the Karolinska University Hospital
- Doctor of Science and Physiology, Karolinska Institute, Sweden



# tech 16 | Course Management

#### Management



Dr. Cannellotto, Mariana

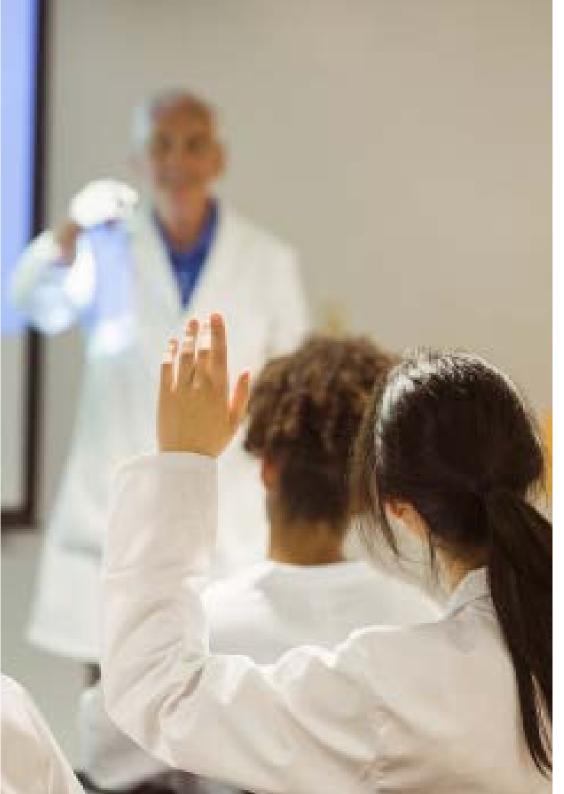
- President of AAMHEI Biobarica Medical Director
- Specialist in Hyperbaric Medicine, Medical Clinic

Co-Direction



Dr. Jordá Vargas, Liliana

- Degree in Clinical Biochemistry
- Microbiology
- Scientific Director of AEMHEI and AAMHEI
- Biobarica Scientific and Clinical Research Director



#### **Teachers**

Dr. Emilia Fraga, Pilar María

- FINES Teacher
- AAMHEI Pedagogical Assistant

#### Dr. López Jiménez, Elías

- Degree in Medicine from the Complutense University of Madrid
- Specialist in Radiotherapeutic Oncology via RMI, La Princesa Hospital

#### Dr. Navarro Viltre, Bárbara Ivonne

- Deputy of the Emergency Department of the General Hospital of Catalonia
- Specialist in Family and Community Medicine
- Head of Hyperbaric Medicine unit at Cataluyna Hospital

#### Dr. Ramallo, Rubén Leonardo

- Master of Psycho neuro immuno endocrinology
- Biobarica Medical Doctor Núñez and Larrea
- Director of the AAMHEI Medical Clinic Commission

#### Dr. Romero-Feris, María Delfina

- President of AEMHEI
- Biobaric Medical Director Spain

#### Dr. Verdini, Fabrizio

- Diploma in Public Health Management
- Master's Degree in Healthcare Management





# tech 20 | Structure and Content

#### Module 1. HBOT in Pain, Rheumatic Diseases and the Medical Clinic

- 1.1. HBOT in Altitude Sickness
- 1.2. Mechanisms of Action in Analgesia Neuropathic Pain and Hyperbaric Oxygen
- 1.3. Arthropathies and Collagenopathies
- 1.4. HBOT in Dysfunctional Neurosensitive Syndromes
- 1.5. Fibromyalgia and Hyperbaric Oxygen
- 1.6. HBOT in Ischemia Reperfusion Injury
- 1.7. Tinnitus and Sudden Onset Deafness
- 1.8. Inflammatory Bowel Diseases and Hyperbaric Oxygen
- 1.9. HBOT in Fertility
- 1.10. Hyperbaric Oxygen in the Metabolism of Diabetes and Severe Anemia.

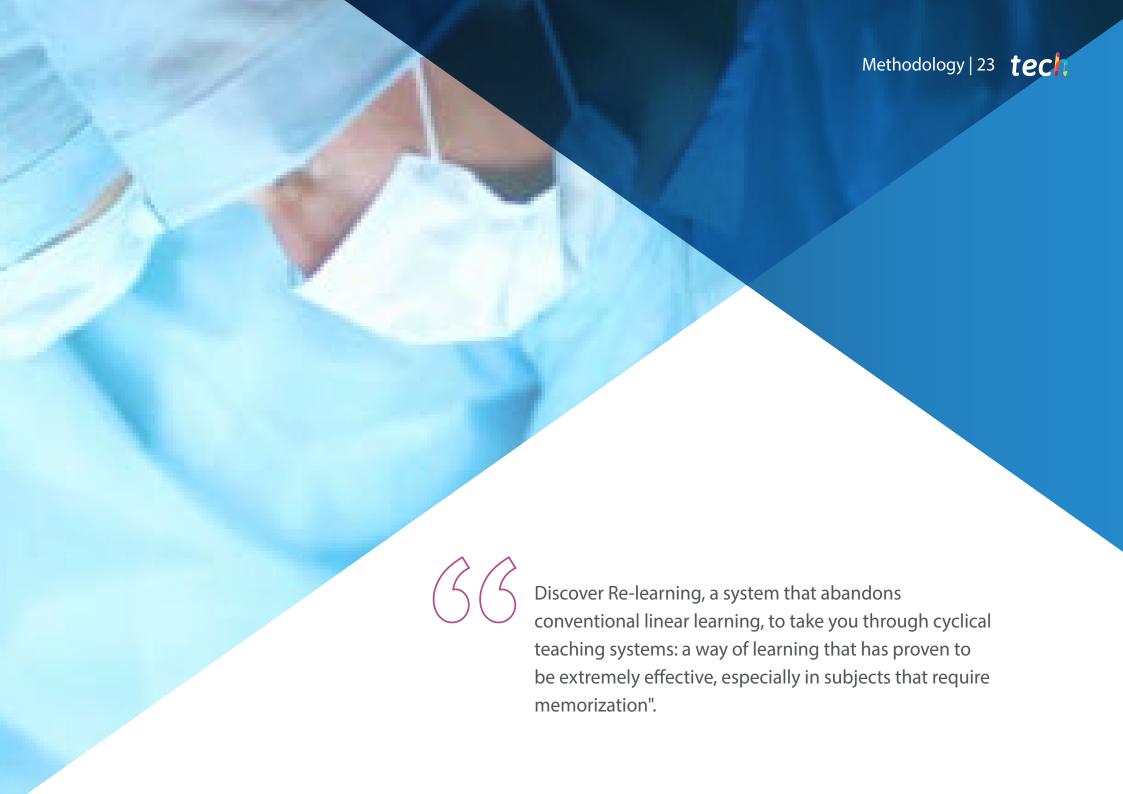






This specialization will allow you to advance in your career comfortably"







#### 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 abundant 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.





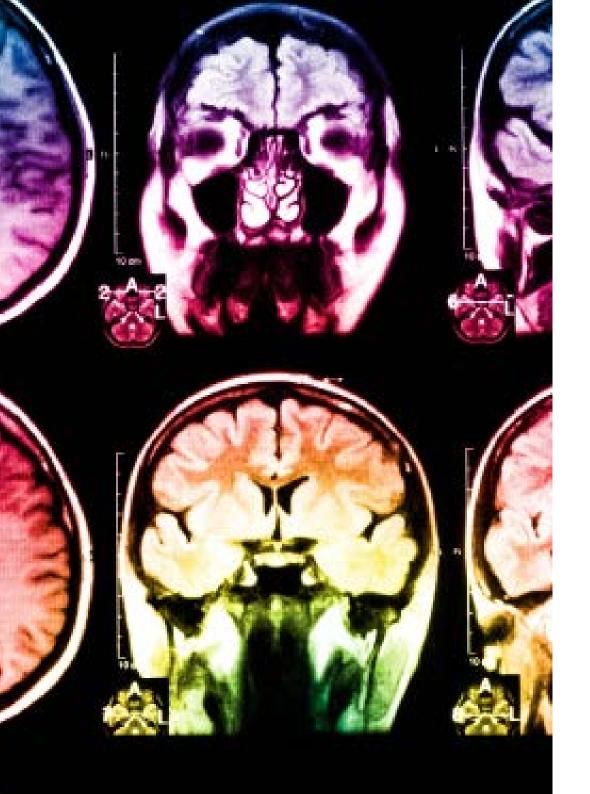
#### **Re-Learning Methodology**

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

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-theart software to facilitate immersive learning.





## Methodology | 27 tech

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, 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 high socioeconomic profile and an average age of 43.5 years old.

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 (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.

# tech 28 | Methodology

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

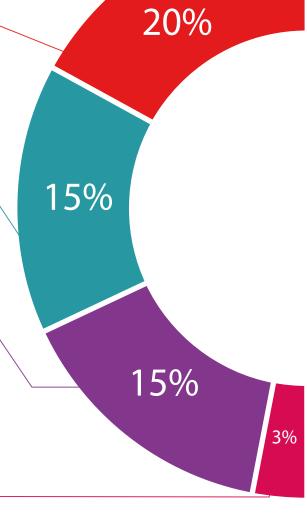
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many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

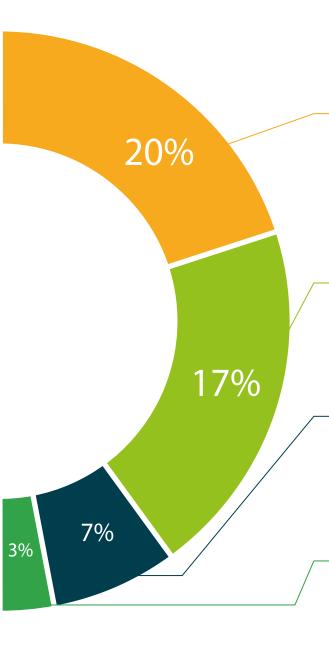
This exclusive multimedia content presentation training Exclusive system was awarded by Microsoft as a "European Success Story".





#### **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 & Re-testing

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 your 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.







# tech 32 | Certificate

This Postgraduate Certificate in HBOT in Pain, Rheumatic Pathology and Medical Clinic 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 issued by TECH - Technological University via tracked delivery.

This degree contributes to the academic development of the professional and adds a high university curricular value to their training. It is 100% valid in all competitive examinations, labour exchanges and professional career evaluation committees.

Title: Postgraduate Certificate in TOHB in Pain, Rheumatic Pathology and Medical Clinic

ECTS: 6

Official Number of Hours: 150



#### **POSTGRADUATE CERTIFICATE**

in

#### TOHB in Pain, Rheumatic Pathology and Medical Clinic

This is a qualification awarded by this University, with 6 CTS credits and equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020 Z

Tere Guevara Navarro

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

# health guarantee technological university

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