Postgraduate Certificate
Thoracic Anesthesia

tech *global university*

Postgraduate Certificate

Thoracic Anesthesia

- » Modality: **online**
- » Duration: **8 weeks**
- » Certificate: **TECH Global University**
- » Credits: **6 ECTS**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/us/medicine/postgraduate-certificate/thoracic-anesthesia**

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01
Introduction

Cardiothoracic Anesthesiology has undergone impressive development in the last 20 years. Pharmacological and biotechnological advances, intraoperative and postoperative monitoring, imaging techniques and new paradigms of safety and multimodal management, as well as sub-specialization by specific areas, have contributed decisively to this transformation, and help reduce the patient morbidity and mortality.

The new scenarios in anesthesia procedures in critically ill patients motivate us to propose new training programs that meet the real needs of experienced professionals, so that they can incorporate advances in cardiothoracic anesthesia management into their medical practice"

This Postgraduate Certificate offers specialists a global and updated vision of the perioperative management of patients undergoing thoracic surgery. It includes an exhaustive selection of the most frequent procedures, as well as the most complex ones, which require constant updating.

Furthermore, among other new aspects, these stand out: preoperative evaluation, nutritional and hematometric optimization of the patient, perioperative rehabilitative physiotherapy, and new transfusion management and blood saving policies, as well as advances in monitoring such as transthoracic and transesophageal echocardiography, new pulse wave analysis systems, target-guided fluid therapy, or monitoring of acute hemostasis disorders through thromboelastometry.

The program also covers the most important aspects of new drugs, cardiac transplantation management, anesthetic management without extracorporeal circulation, multimodal management of cardiac surgery, adapted to the new minimally invasive surgical approaches, as well as management of cardiac transplantation, ventricular assists of notable importance at present and with a highly relevant role in the future.

We address Thoracic Anesthesia through the important advances that have taken place in the last decade. Aspects related to preoperative preparation, new criteria for resectability-operability, one-lung ventilation, different modalities of ventilatory assistance and lung protection, as well as management of cardiac transplantation, echocardiographic pulmonary monitoring, and advances in the field of post-thoracotomy pain.

This **Postgraduate Certificate in Thoracic Anesthesia** is the most complete and up-to-date scientific program on the market. The most important features of the course are:

- Clinical cases presented by specialists in anesthesiology and other areas. 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.

- Real high-resolution images of pathologies, diagnostic imaging tests and guided procedures.

- Presentation of practical workshops on procedures and techniques.

- Algorithm-based interactive learning system for decision-making in the presented clinical situations.

- All this will be complemented by 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.

You will be able to learn, through the latest educational technology, the most recent advances in Thoracic Anesthesia"

"

This Postgraduate Certificate may be the best investment you can make when choosing a refresher program for two reasons: in addition to updating your knowledge of Thoracic Anesthesia, you will obtain a qualification from TECH Global University"

Incorporate the latest developments in Thoracic Anesthesia to your medical practice and improve patient prognosis.

It includes real clinical cases to bring medical practice as close as possible to the development of the program.

The teaching staff is made up of a team of leading anesthesiologists, who bring to this training the experience of their work, in addition to recognized specialists in other medical areas.

The multimedia content developed with the latest educational technology will provide the physician with situated and contextual learning, i.e., a simulated environment that will provide immersive training programmed to train in real situations.

Problem-Based Learning underpins this program design, and the specialists must use it to try and solve the different professional practice situations that arise throughout the course. For this reason, you will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field of psychology with extensive teaching experience.

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Objectives

The main objective is to facilitate the incorporation of advances in Thoracic Anesthesia, so that specialists can update their knowledge in a practical way, using the latest educational technology and adapting the educational process to their real needs.

This refresher program will provide you with the skills to act safely in decision making during procedures in Thoracic Anesthesia, and will help you grow professionally"

General Objective

• Update specialist physicians on the procedures and techniques performed in Thoracic Anesthesia, incorporating the latest advances to increase the quality of their daily medical practice and improve patient prognosis.

Specific Objectives

• Review updates on pulmonary pathophysiology applied to cardiac surgery. Alterations in "ventilation/perfusion", dead space in one-lung ventilation, and hypoxic vasoconstriction.

• Consider pre-anesthetic assessment in patients with pulmonary pathology. Perioperative Risk Estimation. Optimize preoperative tests.

• Analyze the preoperative optimization for patients proposed for pulmonary resection.

• Discuss the knowledge of advanced hemodynamic monitoring devices: Pulse wave analysis systems. Cerebral oximetry.

• Assess the indications for transthoracic echocardiography. Basic planes and anatomical identification of normal and abnormal structures.

• Question applicability in thoracic surgery procedures. Indications and Contraindications.

• Know the new fluid policy. Restrictive vs. liberal fluid therapy. Scientific evidence of the advantages and disadvantages.

- Propose new lung protective ventilation strategies in one-lung ventilation.
- Pathophysiology, prophylaxis and treatment of acute lung injury.
- Determine the peculiarities of the VAD protocols in thoracic surgery.
- Evaluate the methods of lung isolation in VAD in thoracic surgery.
- Reflect on the action protocol for VAD in thoracic surgery.
- Describe the application of NIV in thoracic surgery. Indications and Contraindications.
- Update on analgesia methods in thoracic surgery.
- Consider the prophylaxis, management, and diagnosis of cardiovascular complications after pulmonary resection surgery.
- Analyze the preoperative evaluation in tracheal surgery. Anesthetic management according to the tracheal location of the surgery. Postoperative Care.
- Reflect on the indications for thoracic surgery in spontaneous ventilation. Scientific evidence of the advantages and disadvantages. Peculiarities of anesthetic management.
- Recognize the new Multimodal Rehabilitation protocols in thoracic surgery. Inclusion criteria. Properative evaluation. Postoperative care.
- Inquire into the updated anesthetic management in endobronchial interventionism.
- Updated review of perioperative management of lung transplantation. Anesthetic implications and postoperative care.

Seize the opportunity and take the step to get up-to-date on the latest developments in Thoracic Anesthesia"
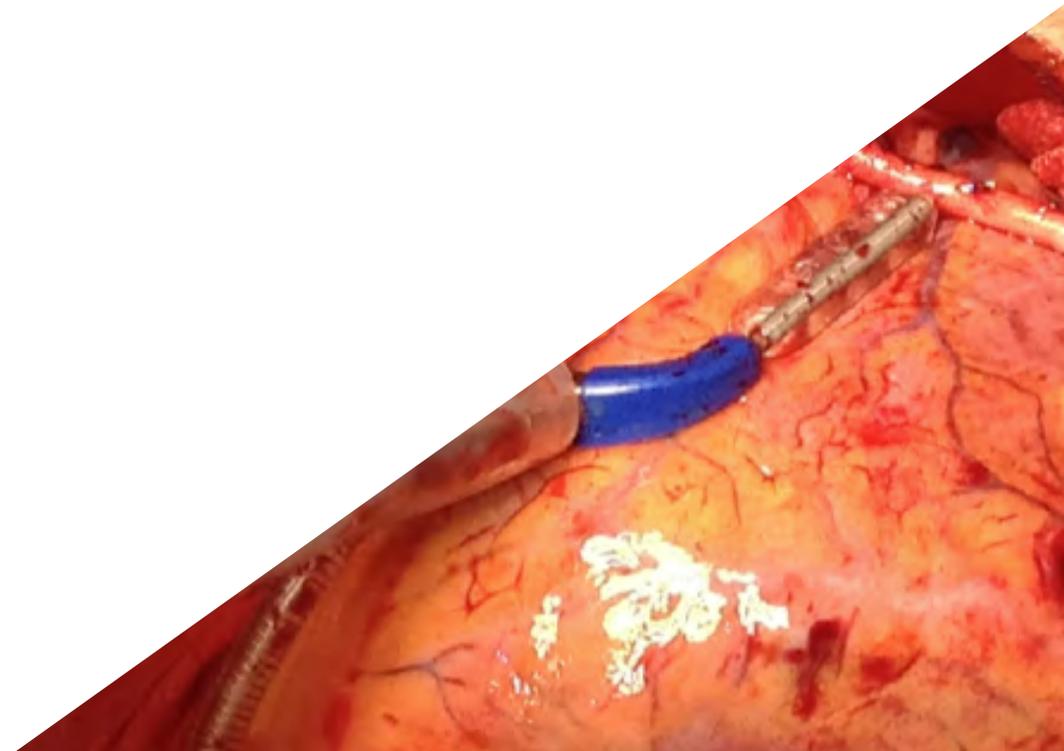
03
Course Management

The materials have been created by a team of leading professionals in the field of Thoracic Anesthesia, who work in prestigious hospitals. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner.

Learn about the latest advances in Thoracic Anesthesia from leading professionals"

International Guest Director

Dr. Betelehem M. Asnake is a leading anesthesiologist with an extensive international career, noted for her commitment to health equity and medical education. She has practiced in San Francisco, California, at Kaiser Permanente Medical Centers in Oakland and Richmond. In addition, she has held an important role as Director of Global Health Initiatives at UCLA Health, considered one of the best hospitals in the United States, and ranked first in both California and Los Angeles in a comprehensive assessment of excellence in patient care.

In addition to her clinical practice, she has been recognized for her passionate work in coaching and promoting diversity in Medicine. In this regard, she has founded MuluMentor, a virtual platform designed to support medical students from underrepresented and disadvantaged backgrounds. This program has facilitated the connection between these students and healthcare professionals in reviewing medical school applications, preparing for the MCAT and obtaining letters of recommendation. In this way, the platform has had a significant impact on inclusion and support for future physicians.

In turn, Dr. Betelehem M. Asnake has been a key international figure in bridging educational gaps in the field of Anesthesia. In fact, she has worked as a facilitator of the SAFE course in Tanzania, teaching safe anesthesia in remote areas. She has also been a co-leader of COVID-19 response teams and has collaborated with the World Society of Anesthesia in the development of international standards of post-anesthesia care. In addition, her role as a peer reviewer for the COVID-19 Repository for Ethiopian Health Professionals has highlighted her commitment to the global improvement of medical education in low-resource settings.

Dr. Asnake, Betelehem M.

- Director of Global Health Initiatives at UCLA Health, Southern California, United States
- General Anesthesiologist at UCLA Health
- General Anesthesiologist at Kaiser Permanente Oakland and Richmond Medical Centers
- Founder of MuluMentor
- General Anesthesiologist at Zuckerberg General Hospital and Trauma Center
- Global Health Equity Fellow at Zuckerberg General Hospital & Trauma Center
- Anesthesiology Specialist from the University of California
- PhD in Medicine from the University of Virginia
- M.S., Pharmacology and Toxicology from the University of Virginia
  B.A., French Studies from the University of California

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

Management

Dr. Muedra Navarro, Vicente

- Head of the Anesthesia Service at the General University Hospital Consortium of Valencia.
- Professor-Doctor of Anesthesiology at the Universitat de Valencia
- Degree in Medicine from the University of Valencia
- MIR Specialist in Anesthesiology, Resuscitation and Pain Therapeutics at La Fe University Hospital in Valencia
- PhD in Medicine and Surgery from the University of Valencia
- Professor of the Department of Biomedical Sciences. Faculty of Medicine. CEU Cardenal Herrera University. Valencia
- Director of doctoral theses and Master's Degree theses
- Member of several Health Care Improvement Commissions at La Ribera University Hospital
- University Expert in the Comprehensive Management of the Airway, by the Catholic University of Valencia
- Vice-president of the Department of Anesthesiology and Critical Care in Cardiac Surgery of the Valencian Community
- Member of the Spanish Society of Anesthesiology, Resuscitation and Pain Therapy
- Member of the Spanish Society of Multimodal Rehabilitation
- Head researcher in several research projects with competitive funding from Public Institutions (Carlos III Health Institute)
- Collaborating Researcher in the Prometeo Program for research groups of Excellence in the Department of Education and Science at Generalitat Valenciana.
- Research member of the Translational Medicine Doctoral Program in the research line Multidisciplinary Intervention in Prevention and Clinical Therapeutics of International Doctoral School CEINDO

Coordinator

Dr. Sánchez García, Fernando
- Head of the Cardiac Surgery Anesthesia Section of the CHGUV. Valencia

Professors

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Dr. Miñana, Encarna
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- Attending Physician
- La Ribera University Hospital. Alzira

Dr. Vicente, Rosario
- Head of Department
- La Fe i Politècnic University Hospital Valencia

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Structure and Content

The curriculum structure has been designed by a team of professionals who recognize the implications of medical training in comprehensive airway management, who are aware of the relevance of current training, and are committed to quality teaching through new educational technologies.

"

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Module 1. Update on Thoracic Anesthesia

1.1. Anatomy and Pathophysiology in Thoracic Surgery
1.2. Preoperative Assessment in High Risk Patients
1.3. Non-invasive Monitoring in Thoracic Surgery
1.4. Pulmonary Ultrasound in Thoracic Surgery
1.5. Fluid Therapy in Thoracic Surgery and Acute Kidney Damage
1.6. Lung Protective Ventilation and Acute Lung Damage
1.7. Difficult Airway (DAV) in Thoracic Surgery
1.8. Non-invasive Mechanical Ventilation (NIV) Applied to Thoracic Surgery
1.9. Acute Pain in Thoracic Surgery
1.10. Cardiovascular Complications in Thoracic Surgery

Module 2. Specific Advances in Thoracic Anesthesia

2.1. Tracheal Surgeries
2.2. Thoracic surgery in Spontaneous Ventilation
2.3. Update on Endobronchial Interventionism
2.4. Multimodal Reahbilitation Protocol in Thoracic Surgery
2.5. Comprehensive Management of Pulmonary Transplantation (TP)

"

A unique, key, and decisive training experience 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.

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 an abundance of 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. 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 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.

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.
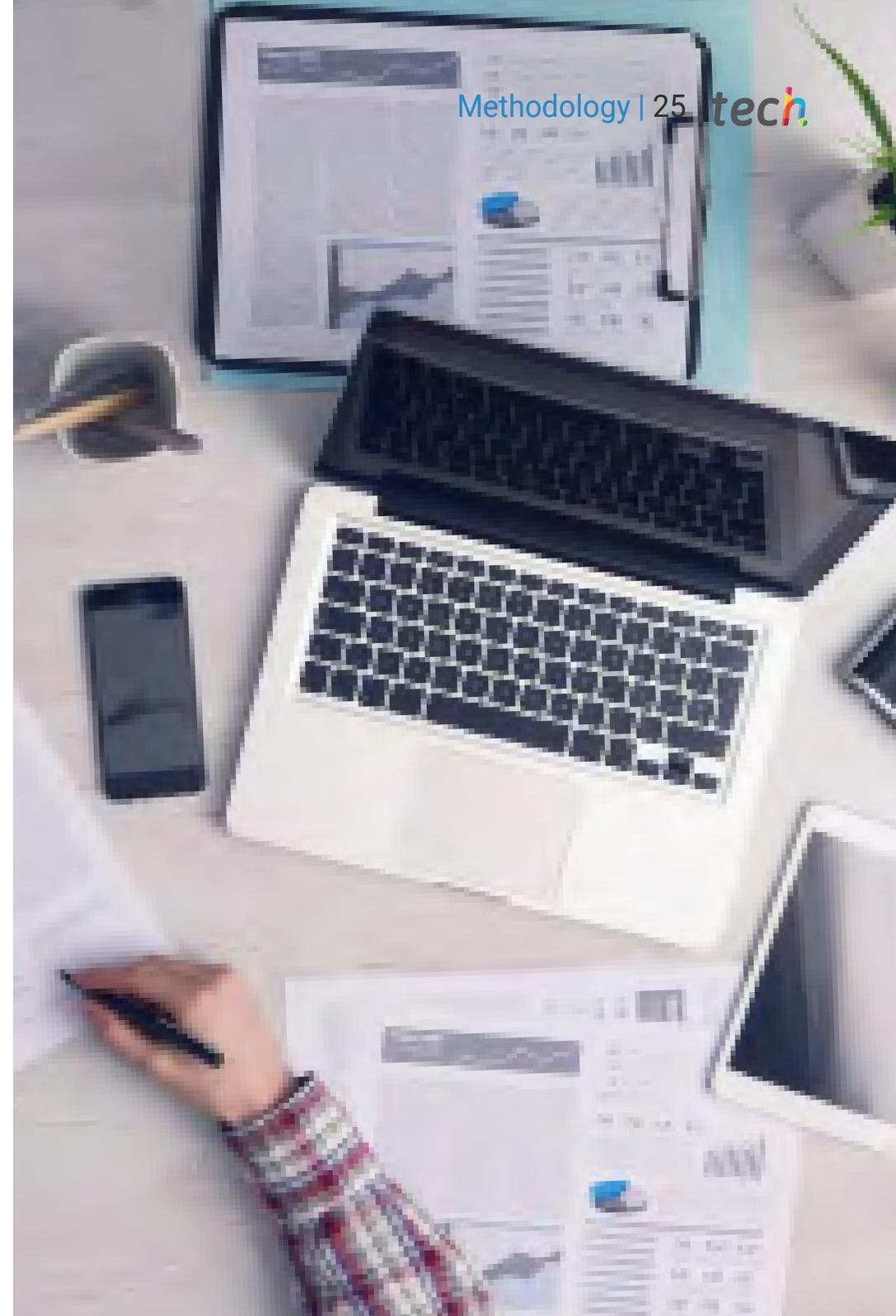
Re-learning Methodology

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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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 teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is really 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.

20%

15%

15%

3%

20%

17%

7%

3%
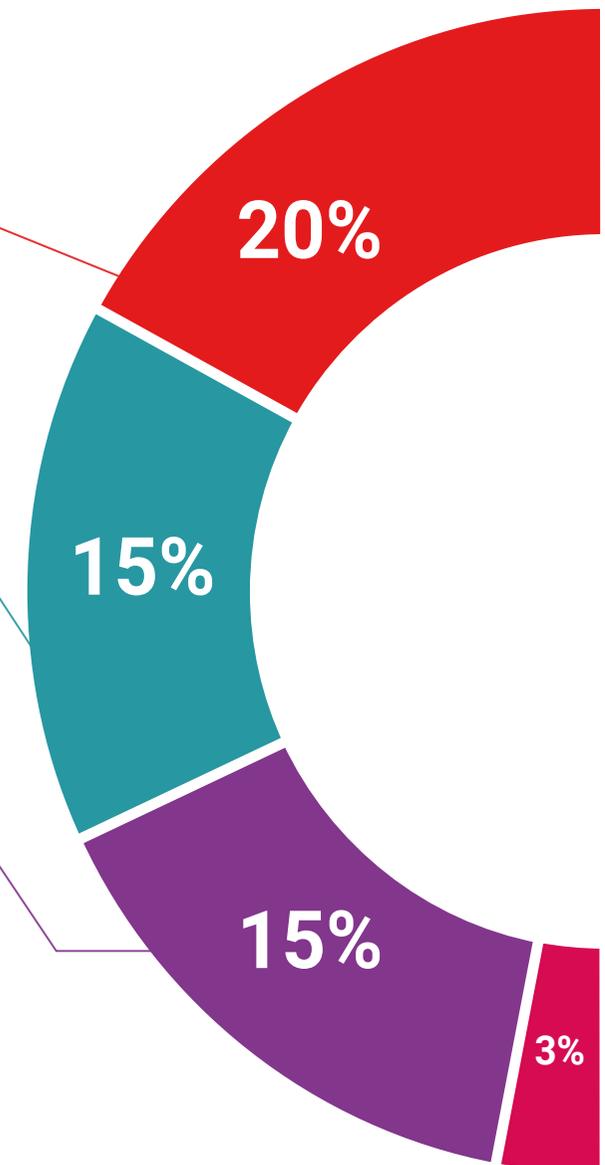
Expert-Led Case Studies and Case Analysis

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 & Retesting

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 difficult future 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 Thoracic Anesthesia** guarantees, in addition to the most accurate and updated training, access to a qualification issued by **TECH Global University.**

"

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

This program will allow you to obtain your **Postgraduate Certificate in Thoracic Anesthesia** 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 Thoracic Anesthesia**

Modality: **online**

Duration: **8 weeks**

Accreditation: **6 ECTS**

tech global university

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

Postgraduate Certificate in Thoracic Anesthesia

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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