

# Postgraduate Diploma

## Robotic Thoracic Surgery



## Postgraduate Diploma Robotic Thoracic Surgery

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Accreditation: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitude.com/us/medicine/postgraduate-diploma/postgraduate-diploma-robotic-thoracic-surgery](http://www.techtitude.com/us/medicine/postgraduate-diploma/postgraduate-diploma-robotic-thoracic-surgery)

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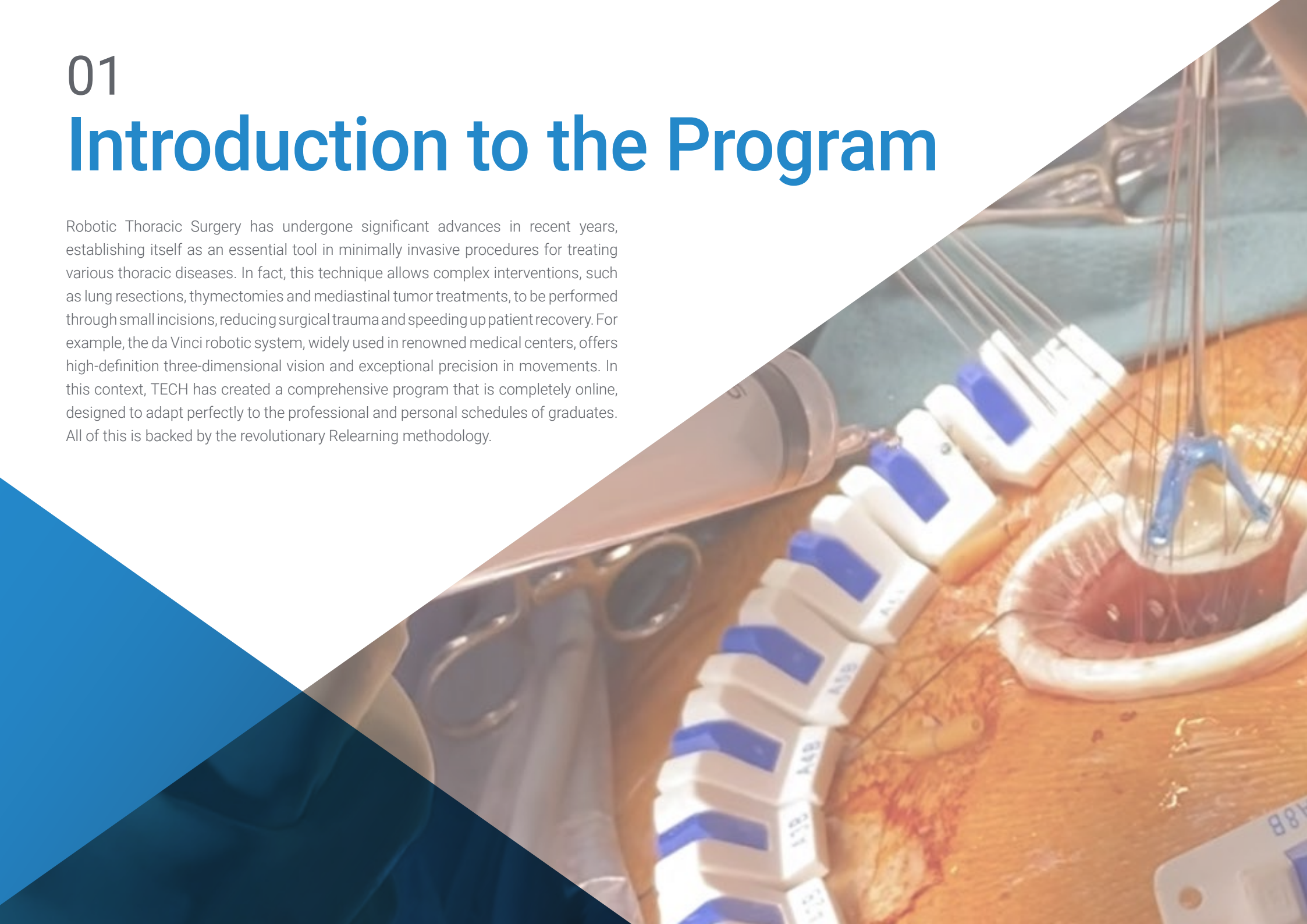
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# 01

# Introduction to the Program

Robotic Thoracic Surgery has undergone significant advances in recent years, establishing itself as an essential tool in minimally invasive procedures for treating various thoracic diseases. In fact, this technique allows complex interventions, such as lung resections, thymectomies and mediastinal tumor treatments, to be performed through small incisions, reducing surgical trauma and speeding up patient recovery. For example, the da Vinci robotic system, widely used in renowned medical centers, offers high-definition three-dimensional vision and exceptional precision in movements. In this context, TECH has created a comprehensive program that is completely online, designed to adapt perfectly to the professional and personal schedules of graduates. All of this is backed by the revolutionary Relearning methodology.



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*With this 100% online Postgraduate Diploma, you will acquire technical skills in the use of robotic technology, strengthening your precision when performing surgical procedures and reducing invasiveness”*

Robotic Thoracic Surgery represents a significant advance in the treatment of thoracic diseases, providing benefits for both patients and healthcare professionals. In fact, its ability to perform complex procedures with greater precision and less invasiveness makes it an invaluable tool in modern Thoracic Surgery.

This is the origin of this Postgraduate Diploma, which will analyze in depth the different anesthetic techniques used in these procedures, as well as the appropriate ventilation modalities to optimize patient outcomes. In this sense, physicians will skillfully handle the complexities of anesthesia in Thoracic Surgery, from ventilation in minimally invasive procedures, to the specific monitoring that must be implemented to guarantee patient safety.

Likewise, the course will address the appropriate selection of the most suitable surgical techniques for each case, based on diagnostic criteria and the use of advanced imaging tools, such as the precise localization of lung nodules, significantly improving the precision and efficacy of the interventions. It will also emphasize the importance of a multidisciplinary approach to patient care, ensuring that each phase of the surgical process is optimally managed.

Finally, professionals will be able to use robotic systems, such as da Vinci, to perform complex procedures with greater precision and less invasiveness, which translates into faster and less painful recovery for patients. In addition, they will be prepared to face and manage possible complications during surgery, establishing clear protocols for their quick and safe resolution.

In this way, TECH has developed a comprehensive 100% online program, which only requires an electronic device with an Internet connection to access all the teaching materials, eliminating the need to attend a physical center or adapt to fixed schedules. In addition, it is based on the innovative Relearning methodology, which emphasizes the repetition of essential concepts to ensure a deep and continuous understanding of the content.

This **Postgraduate Diploma in Robotic Thoracic Surgery** contains the most complete and up-to-date scientific program on the market. Its most notable features are:

- ♦ The development of case studies presented by experts with a deep knowledge of the latest techniques in Minimally Invasive Thoracic Surgery, which simplifies the work of doctors in clinics, hospitals and other healthcare centers
- ♦ The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable for professional practice
- ♦ Practical exercises where the process of self-assessment can be used to improve learning
- ♦ 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



*You will master robotic systems, such as the da Vinci, perfecting skills in lung resections, thymectomies and mediastinal tumor surgery, through the best teaching materials on the education market"*

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*You will address protocols to effectively manage complications, ensuring that procedures are performed safely and successfully, thanks to an extensive library of innovative multimedia resources”*

The program's teaching staff includes professionals from the field who contribute their work experience to this educational 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 education programmed to prepare for 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*You will delve into fluid therapy strategies and the proper management of pain, both intraoperatively and postoperatively, with a comprehensive approach to patient care. What are you waiting for to enroll?*

*You will guarantee optimal care during all stages, from preoperative evaluation to postoperative follow-up, helping to reduce complications and ensure an efficient recovery.*



02

# Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it relies on an enormous faculty of more than 6,000 professors of the highest international renown.



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*Study at the world's largest online university and guarantee your professional success. The future starts at TECH”*

**The world's best online university, according to FORBES**

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

**The best top international faculty**

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

**The world's largest online university**

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.



**The most complete syllabuses on the university scene**

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

**A unique learning method**

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

### The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

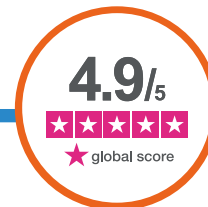
### Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.



### Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.



### The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.



# 03 Syllabus

Throughout the program, doctors will delve into key aspects such as anesthesia and monitoring in Thoracic Surgery, preoperative planning with advanced imaging tools, and comprehensive patient management before and after surgery. The fundamentals and practical applications of Robotic Thoracic Surgery will also be addressed, allowing the acquisition of skills in the use of robotic systems to perform complex procedures with precision and safety. In addition, theory will be combined with practice, providing graduates with the skills necessary to implement these innovative approaches in their daily clinical practice.

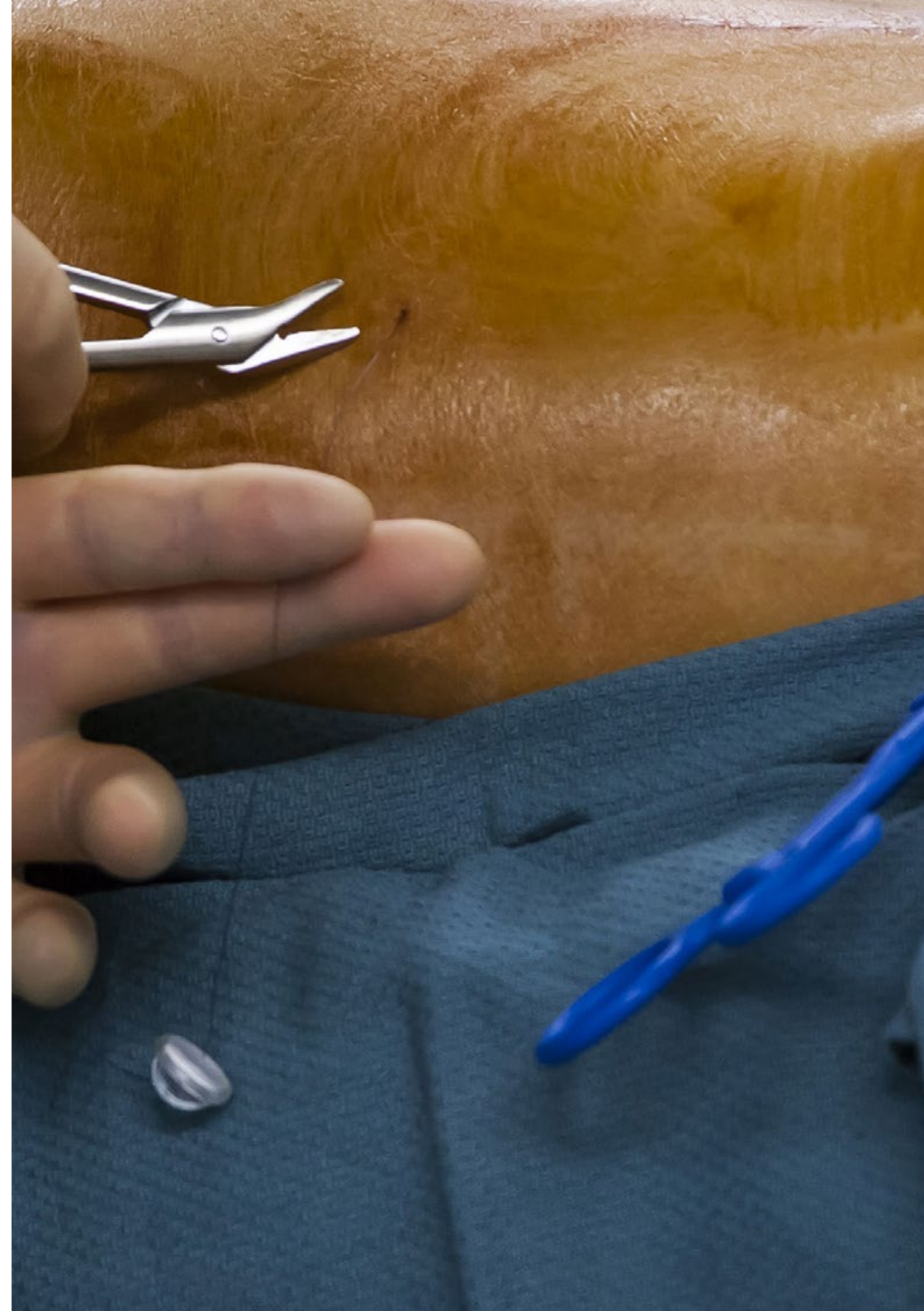


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*Bet on TECH! You will delve into the specific technical aspects of Robotic Thoracic Surgery, equipping yourself with the necessary tools to perform precise interventions with the robotic system”*

## Module 1. Anesthesia in Minimally Invasive Thoracic Surgery

- 1.1. Evolution of Anesthesia towards Minimally Invasive Surgery
  - 1.1.1. Background and Evolution of Anesthesia in Minimally Invasive Thoracic Surgery
  - 1.1.2. Advances in Anesthetic Techniques
  - 1.1.3. One-Lung Ventilation
  - 1.1.4. New Analgesic Blockades
  - 1.1.5. Technological Advances
    - 1.1.5.1. Thoracoscopic Surgery (VATS)
    - 1.1.5.2. Robotic Surgery
- 1.2. Pre-anesthetic Assessment in Minimally Invasive Surgery
  - 1.2.1. Identification of Risk Factors
    - 1.2.1.1. Risk Assessment Scales
    - 1.2.1.2. Immediate Postoperative Complications
    - 1.2.1.3. Respiratory Factors
    - 1.2.1.4. Cardiovascular Factors
    - 1.2.1.5. Metabolic Risk Factors and Comorbidities
  - 1.2.2. Pulmonary Function Tests
    - 1.2.2.1. Respiratory Function Tests
    - 1.2.2.2. Unilateral Function Tests
    - 1.2.2.3. Stress Tests
  - 1.2.3. Optimization of the Patient's General Condition
    - 1.2.3.1. Respiratory Optimization
    - 1.2.3.2. Cardiovascular Optimization
    - 1.2.3.3. Metabolic and Nutritional Optimization
    - 1.2.3.4. Optimization of Preoperative Anemia
    - 1.2.3.5. Respiratory Physiotherapy
      - 1.2.3.5.1. Rehabilitation
      - 1.2.3.5.2. Psychological Support
- 1.3. Minimally Invasive Anesthetic Management of the Thoracic Patient
  - 1.3.1. Anesthetic Techniques
    - 1.3.1.1. General Anesthesia
    - 1.3.1.2. One-Lung Ventilation
    - 1.3.1.3. Protective Lung Ventilation



- 1.3.2. Monitoring
  - 1.3.2.1. Standard Monitoring
  - 1.3.2.2. Diuresis
    - 1.3.2.2.1. Anesthetic Depth
    - 1.3.2.2.2. Progressive Muscle Relaxation. Temperature
- 1.3.3. Others. Positioning
  - 1.3.3.1. Fluid Therapy
  - 1.3.3.2. Multimodal Analgesia
- 1.4. Airway Management: Double-Lumen Tube Placement
  - 1.4.1. Background and Evolution of Double-Lumen Tube in Minimally Invasive Surgery
  - 1.4.2. Indications for the Use of Double-Lumen Tubes
    - 1.4.2.1. Advantages and Disadvantages of the Use of Double-Lumen Tubes
  - 1.4.3. Types of Double-Lumen Tubes
    - 1.4.3.1. With Camera
    - 1.4.3.2. Without Camera
    - 1.4.3.3. Positioning of Double-Lumen Tubes
- 1.5. Airway Management: Bronchial Blockers and Endotracheal Intubation
  - 1.5.1. Background and Evolution of Bronchial Blockers in Minimally Invasive Surgery
  - 1.5.2. Indications for the Use of Bronchial Blockers
    - 1.5.2.1. Difficult Airway in One-Lung Ventilation
    - 1.5.2.2. Segmental Pulmonary Isolation
    - 1.5.2.3. One-Lung Ventilation in Pediatric Patients or Patients of Small Stature
    - 1.5.2.4. Altered Tracheobronchial Anatomy
  - 1.5.3. Types of Bronchial Blockers
    - 1.5.3.1. Independent
    - 1.5.3.2. Incorporated into the Endotracheal Tube
    - 1.5.3.3. Advantages and Disadvantages of Using Bronchial Blockers
    - 1.5.3.4. Positioning of Bronchial Blockers
- 1.6. Airway Management: Thoracic Surgery Without Intubation
  - 1.6.1. Preoperative Assessment. Inclusion and Exclusion Criteria
  - 1.6.2. Intraoperative Anesthetic Management
    - 1.6.2.1. Monitoring
    - 1.6.2.2. Airway Management
    - 1.6.2.3. Anesthetic Induction
    - 1.6.2.4. Postoperative Pain Management
  - 1.6.3. Postoperative Care. Complications
- 1.7. Airway Management: Intraoperative Bronchoscopy
  - 1.7.1. Anatomy of the Tracheobronchial Tree
  - 1.7.2. Indications for Intraoperative Bronchoscopy
    - 1.7.2.1. Placement and Verification of the Lung Isolation Device
    - 1.7.2.2. Readjustment of Lung Isolation
    - 1.7.2.3. Control of Intraoperative Secretions and Bleeding
    - 1.7.2.4. Detection and Handling of Intraoperative Complications
    - 1.7.2.5. Guidance in Complex Surgeries
    - 1.7.2.6. Confirmation of Bronchial Patency after Resection
    - 1.7.2.7. Evaluation of Bronchial Leaks
    - 1.7.2.8. Assistance in the Management of Bronchopleural Fistulas
  - 1.7.3. Management of Fiberoptic Bronchoscopy in the Difficult Airway
- 1.8. Analgesic Management: Spinal Erector Plane Block and Other Selective Blockades
  - 1.8.1. Pain in Minimally Invasive Thoracic Surgery. Anatomy of the Thoracic Wall
  - 1.8.2. Intercostal Blockade
  - 1.8.3. Interfascial Blockade
    - 1.8.3.1. Features
    - 1.8.3.2. Types of Blockades
      - 1.8.3.2.1. Erector Spinal Blockade
      - 1.8.3.2.2. Serratus Plane Blockade PECS Blockade

- 1.9. Analgesic Management: Epidural and Paravertebral Blockade
  - 1.9.1. Epidural Blockade. Effects. Complications
  - 1.9.2. Paravertebral Blockade. Techniques. Complications
  - 1.9.3. Comparison of Epidural Blockade vs. Paravertebral Blockade
- 1.10. Postoperative and Discharge Analgesic Management
  - 1.10.1. Pain Assessment
    - 1.10.1.1. One-dimensional Scales
    - 1.10.1.2. Multidimensional Scales
  - 1.10.2. Multimodal Pain Management
    - 1.10.2.1. Analgesics
    - 1.10.2.2. Regional Techniques
    - 1.10.2.3. Adjuvant Drugs
  - 1.10.3. Chronic Post-Thoracotomy Pain
    - 1.10.3.1. Incidence
    - 1.10.3.2. Risk Factors

## Module 2. VATS Preoperative Planning and Care in Minimally Invasive Thoracic Surgery

- 2.1. Resectability Criteria in Minimally Invasive Surgery
  - 2.1.1. Resectability
  - 2.1.2. Methods for Evaluating Resectability
  - 2.1.3. Strategies to Improve Resectability
- 2.2. Operability Criteria in Minimally Invasive Surgery
  - 2.2.1. Operability
  - 2.2.2. Preoperative Functional Evaluation Algorithms
  - 2.2.3. Other Operability Conditions
- 2.3. Marking of Pulmonary Nodules
  - 2.3.1. Indications for the Use of Pulmonary Nodule Marking
  - 2.3.2. Types of Percutaneous Marking and Bronchoscopic Marking
  - 2.3.3. Advantages and Disadvantages of the Different Types of Marking
- 2.4. Usefulness of 3D Reconstruction
  - 2.4.1. 3D Reconstruction. Uses
  - 2.4.2. Applications in Minimally Invasive Surgery
  - 2.4.3. Advantages of 3D Reconstruction for Minimally Invasive Surgery: Evidence in Literature
- 2.5. Patient Prehabilitation in Minimally Invasive Surgery
  - 2.5.1. Evidence for Patient Prehabilitation
  - 2.5.2. Candidates for Prehabilitation
  - 2.5.3. Practical Recommendations for Patient Prehabilitation
- 2.6. ERAS Program: Preoperative in Minimally Invasive Surgery
  - 2.6.1. Quitting Smoking. Management of Alcohol Dependence
  - 2.6.2. Optimization of Hemoglobin Levels. Optimization of Nutritional Status. Pre-operative Fasting
  - 2.6.3. Prophylaxis of Thromboembolic Disease. Antibiotic Prophylaxis
- 2.7. ERAS Program: Intraoperative in Minimally Invasive Surgery
  - 2.7.1. Prevention of Hypothermia
  - 2.7.2. Anesthetic Protocol
  - 2.7.3. Regional Analgesia
- 2.8. ERAS Program: Postoperative in Minimally Invasive Surgery
  - 2.8.1. Nausea and Vomiting Control. Prevention and Treatment of the Arrhythmia
  - 2.8.2. Pain Management
  - 2.8.3. Early Physiotherapy and Mobilization
- 2.9. Drainage Management in Minimally Invasive Surgery. Specific Aspects
  - 2.9.1. Pleural Space Physiology
  - 2.9.2. Types of Thoracic Drainage Systems
  - 2.9.3. Management of Drainages
- 2.10. Prevention of Late Complications and Urgent Readmissions
  - 2.10.1. Incidence
  - 2.10.2. Risk Factors. Main Causes
  - 2.10.3. Impact on Survival

**Module 3. Robotic Thoracic Surgery**

- 3.1. Robotic Systems, Characteristics, Components and Placement
  - 3.1.1. Components of Robotic Systems
  - 3.1.2. Differences between the Main Current Robotic Systems
  - 3.1.3. Preparation and Positioning of the Patient. General Operating Room Organization
- 3.2. Right Lobar Resections and Lymphadenectomy
  - 3.2.1. Trocar Placement
  - 3.2.2. Technical Aspects of Right Upper Lobectomy. Intrafissural. Fisureless
  - 3.2.3. Technical Aspects of Meddle Lobectomy
  - 3.2.4. Technical Aspects of Right Lower Lobectomy
  - 3.2.5. Tips and Tricks
- 3.3. Left Lobar Resections and Lymphadenectomy
  - 3.3.1. Trocar Placement
  - 3.3.2. Technical Aspects of Right Upper Lobectomy. Intrafissural. *Fisureless*
  - 3.3.3. Technical Aspects of Left Upper Lobectomy
  - 3.3.4. Technical Aspects of Left Lower Lobectomy
  - 3.3.5. Tips and Tricks
- 3.4. Right Sublobar Resections
  - 3.4.1. Specific Anatomical Considerations
  - 3.4.2. Technical Aspects
  - 3.4.3. Tips and Tricks
- 3.5. Left Sublobar Resections
  - 3.5.1. Specific Anatomical Considerations
  - 3.5.2. Technical Aspects
  - 3.5.3. Tips and Tricks
- 3.6. Thymus and Posterior Mediastinal Surgery
  - 3.6.1. Trocar Placement and Technical Aspects in Anterior Mediastinal Lesions
  - 3.6.2. Solid Lesions
  - 3.6.3. Myasthenia Gravis Surgery
  - 3.6.4. Trocar Placement and Technical Aspects in Posterior Mediastinal Lesions
  - 3.6.5. Tips and Tricks
- 3.7. Robotic Surgeries in Borderline Regions
  - 3.7.1. Thoracic Wall Surgery
  - 3.7.2. Surgery of the Diaphragm
  - 3.7.3. Role of Robotic Surgery in Cervicothoracic Lesions
- 3.8. Robotic Approaches: multiRATS, URATS, Bi-RATS
  - 3.8.1. Material and Technical Aspects According to Each Approach
  - 3.8.2. Advantages and Limitations of Each Approach
  - 3.8.3. New Challenges: Subxiphoid and Bilateral Robotic Approach. Application in Lung Transplantation
- 3.9. Resolution of Complications in RATS
  - 3.9.1. Ways of Reconversion: VATS vs. Open Surgery
  - 3.9.2. Emergency Protocol
  - 3.9.3. Resolution of Bronchovascular Complications
- 3.10. Development of a Robotic Surgery Program
  - 3.10.1. Initiation for Team Training
  - 3.10.2. Incorporation of Complex and Technically Demanding Surgeries
  - 3.10.3. Training of the Resident in Robotic Surgery



*You will be provided with the latest techniques, protocols and advances in Minimally Invasive Surgery, improving surgical results, reducing recovery time and minimizing the risk of complications”*

04

# Teaching Objectives

The main objective of this program is to provide the knowledge and skills necessary to master the advanced techniques of Minimally Invasive Thoracic Surgery using robotic technology. In this way, physicians will master the technical and surgical aspects specific to robotic procedures, improving precision and safety in complex interventions such as lung resections and thymectomies. They will also be trained in preoperative planning, appropriate patient selection and comprehensive perioperative management, with a focus on reducing complications and improving postsurgical recovery.



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*You will select the right patients for each type of intervention, relying on advanced imaging tools and procedure planning, always with the support of the Relearning methodology”*



## General Objectives

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- ♦ Analyze the key points in the development of anesthesia and its impact on minimally invasive thoracic surgery
- ♦ Identify current analgesic techniques that allow for pain management
- ♦ Determine the multimodal perioperative care protocols in thoracic surgery to minimize complications and improve clinical outcomes
- ♦ Analyze preoperative planning techniques according to the latest 3D reconstruction technologies
- ♦ Examine the different robotic systems, their characteristics and particularities, as well as their technological evolution
- ♦ Evaluate their effectiveness, benefits and challenges, in order to provide a comprehensive view of their current role and future potential in clinical practice





## Specific Objectives

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### Module 1. Anesthesia in Minimally Invasive Thoracic Surgery

- ♦ Analyze the different anesthetic techniques used in minimally invasive thoracic surgery
- ♦ Develop the ventilation modalities used in minimally invasive procedures in thoracic surgery
- ♦ Assess the monitoring required in the different minimally invasive thoracic surgery procedures
- ♦ Present the anaesthetic management of thoracic surgery without intubation, recall the characteristics of this anaesthetic management and analyse its use in medical practice
- ♦ Define fluid therapy in these minimally invasive procedures
- ♦ Examine the different analgesic techniques and their implications in the intraoperative and postoperative periods and establish their relation to chronic pain

### Module 2. VATS Preoperative Planning and Care in Minimally Invasive Thoracic Surgery

- ♦ Identify the selection criteria for different thoracic surgery techniques
- ♦ Apply advanced imaging tools and localization of lung nodules in preoperative planning, improving the precision and efficacy of interventions
- ♦ Guarantee the comprehensive management of the patient from the preoperative to the postoperative stage, ensuring optimal recovery and minimization of complications

### Module 3. Robotic Thoracic Surgery

- ♦ Analyze the specific technical aspects of each type of thoracic surgery intervention from a robotic approach
- ♦ Detail the benefits associated with this type of approach compared to other minimally invasive surgery techniques
- ♦ Establish a strategy and protocol for action in the event of a complication in order to resolve it safely



*You will investigate the anesthetic techniques used in thoracic procedures, analyzing the different ventilation modalities and the specific monitoring necessary to optimize patient safety"*

05

# Career Opportunities

Graduates will have access to new opportunities in highly specialized hospitals, leading medical centers and private clinics that implement robotic technologies in their procedures. In addition, they will be able to join multidisciplinary teams dedicated to Minimally Invasive Thoracic Surgery, taking on key roles in the planning and execution of complex interventions. They will also have the opportunity to continue their education in research and development, participating in clinical studies and technological innovation projects in the field of Robotic Surgery.



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*This Postgraduate Diploma in Robotic Thoracic Surgery will offer physicians a range of career opportunities in the field of Advanced Thoracic Surgery, from the world's best online university, according to Forbes: TECH”*

### Graduate Profile

This professional profile will be characterized by their ability to plan and execute interventions with precision, optimizing results for patients through the use of robotic tools and cutting-edge techniques. In addition, graduates will be competent in the comprehensive management of the patient, from preoperative selection to postsurgical follow-up, guaranteeing a faster and safer recovery. They will also develop a critical and investigative vision, contributing to innovation and continuous improvement in their field. In this way, they will be prepared to take on leadership roles in hospitals, clinics and research centers.

*Graduates will be physicians skilled in the most advanced techniques of Minimally Invasive Thoracic Surgery, with a deep knowledge of the use of robotic technologies in complex surgical procedures.*

- ♦ **Leadership and Management of Surgical Teams:** Ability to coordinate and lead multidisciplinary teams, promoting a collaborative and efficient approach in the surgical environment
- ♦ **Effective Communication:** Skills to communicate clearly and empathetically with patients, family members and members of the medical team, facilitating patient-centered care and expectation management
- ♦ **Evidence-based Clinical Decision Making:** Development of skills to make informed decisions, integrating the latest technological and scientific advances in Thoracic Surgery, always aimed at optimizing results for the patient
- ♦ **Innovation Management and Continuous Improvement:** Ability to identify, apply and promote innovative practices in Thoracic Surgery, contributing to the continuous improvement of the quality of care in the institutions where they work



After completing the program, you will be able to use your knowledge and skills in the following positions:

- 1. Thoracic Surgeon specialized in Robotic Surgery:** A physician in charge of performing thoracic surgical procedures using advanced robotic technology.
- 2. Thoracic Surgery Coordinator in Robotic Units:** A professional in charge of organizing and supervising surgical teams in hospitals with robotic systems.
- 3. Specialist in Preoperative Planning:** A physician in charge of performing thoracic surgical procedures using advanced robotic technology.
- 4. Consultant in Surgical Robotic Technology:** Expert who advises hospitals and medical centers on the implementation and use of robotic technologies.
- 5. Researcher in Robotic and Thoracic Surgery:** Professional dedicated to the research and development of new techniques, technologies and approaches in Robotic Thoracic Surgery.
- 6. Lecturer in Minimally Invasive Thoracic Surgery:** Professor in charge of training physicians in robotic thoracic surgery techniques in postgraduate programs.
- 7. Director of Robotic Surgery Programs:** Leader in charge of managing projects and programs related to robotic thoracic surgery in healthcare institutions.
- 8. Chief of Thoracic Surgery Services:** Physician responsible for directing the thoracic surgery department in a hospital or clinic.



*With this specialized education from TECH, you will be able to optimize your daily clinical practice, offering your patients cutting-edge treatments and keeping yourself at the forefront of a highly competitive field"*

06

# Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.



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*TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”*

## The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

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*At TECH you will NOT have live classes  
(which you might not be able to attend)”*



### The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

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*TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want”*

## Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



## Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

*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.*



## A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



*The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"*

### 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 assess 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.

### The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

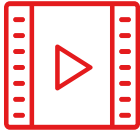
The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

*Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.*

*You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.*



As such, the best educational materials, thoroughly prepared, will be available in this program:



#### 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.

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.



#### Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



#### Interactive Summaries

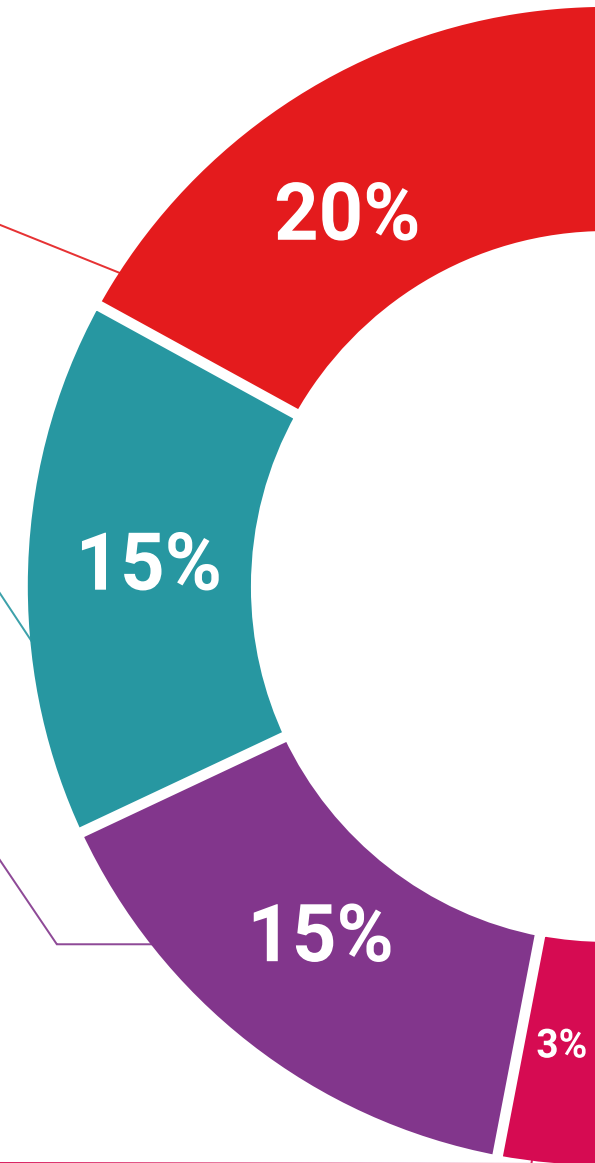
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

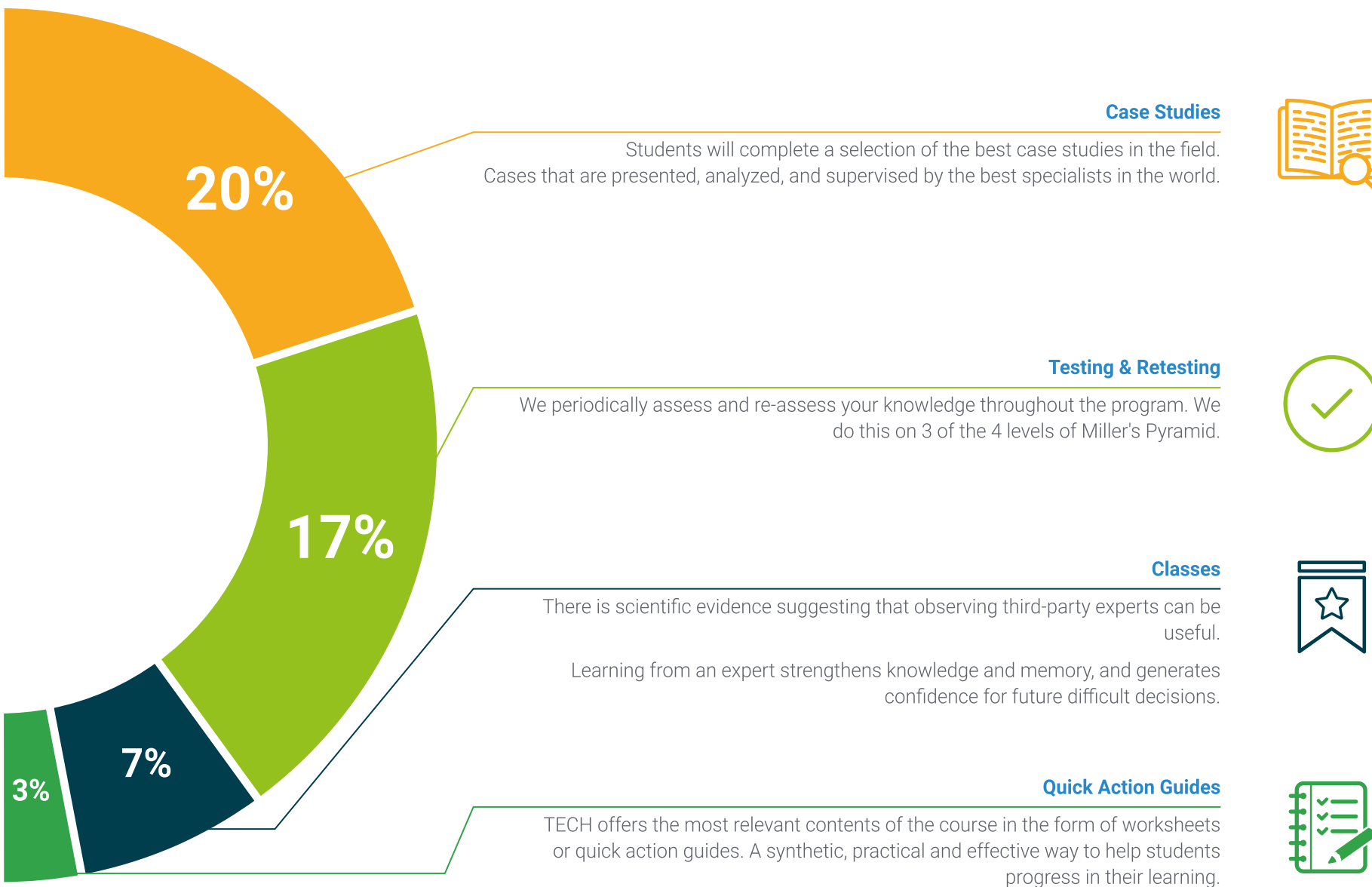
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

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





07

# Teaching Staff

The teaching staff of this Postgraduate Diploma in Robotic Thoracic Surgery is made up of a team of professionals of renowned prestige in the field of Thoracic Surgery and Minimally Invasive Surgery. In fact, it includes thoracic surgeons with vast experience in the use of robotic technologies, anaesthetists specialised in complex thoracic procedures and experts in preoperative planning and postoperative care. In addition, they have extensive academic and clinical backgrounds, which will guarantee high-quality education based on the latest scientific evidence and best clinical practices.



“

*The teaching team is committed to practical learning, offering graduates the opportunity to interact with cutting-edge technology and apply their knowledge in real clinical scenarios”*

## Management



### Dr. Martínez Hernández, Néstor J.

- ♦ President of the Scientific Advisory Office of the Spanish Society of Thoracic Surgery (SECT)
- ♦ Coordinator of the Scientific Committee of the Spanish Society of Thoracic Surgery
- ♦ Thoracic Surgeon at the University Hospital La Ribera
- ♦ Thoracic Surgeon Editor of Cirugía Española in Elsevier
- ♦ Guest Editor at the Journal of Visualized Experiments
- ♦ Associate Professor at the Department of Respiratory Medicine, Faculty of Medicine, Catholic University of Valencia
- ♦ Thoracic Surgeon at the Manises Hospital
- ♦ Visiting Physician at Cedars-Sinai Medical Center
- ♦ Resident Medical Intern at the General University Hospital of Valencia
- ♦ Visiting Physician at Mount Sinai Hospital, New York, United States
- ♦ Visiting Physician at Yale New Haven Hospital, United States
- ♦ Doctor of Medicine and Surgery from the University of Valencia
- ♦ Degree in Medicine and Surgery from the University of Valencia
- ♦ Specialist in Thoracic Surgery
- ♦ Extraordinary Doctorate Award from the University of Valencia
- ♦ Antonio Caralps y Masso Award of the SECT for the Best Communication in Thoracic Surgery
- ♦ First Prize of IX Edition to the Best Specialist in Training at the Gregorio Marañón General University Hospital
- ♦ Member of: European Society for Thoracic Surgery (ESTS), Spanish Society of Thoracic Surgery (SECT), Spanish Society of Pulmonology and Thoracic Surgery (SEPAR), Valencian Society of Pulmonology (SVN)



### Dr. Quero Valenzuela, Florencio

- ♦ Chief of the Thoracic Surgery Department at the Virgen de las Nieves University Hospital
- ♦ Specialist Physician in Thoracic Surgery at the Virgen de las Nieves University Hospital
- ♦ Specialist Physician in Thoracic Surgery at the Virgen Macarena University Hospital
- ♦ Member of the Ae22-Cancer Genetics, Biomarkers and Experimental Therapies Research Group
- ♦ Doctor of Surgery from the University of Granada
- ♦ Master's Degree in Clinical Unit Management from the University of Murcia
- ♦ Expert in Epidemiology and Clinical Research from the University of Granada
- ♦ Bachelor's Degree in Medicine and Surgery from the University of Granada

## Professors

### Dr. Macía Vidueira, Iván

- ♦ President of the Tumor Commission at the Bellvitge University Hospital
- ♦ Tutor to Thoracic Surgery Residents at Bellvitge University Hospital
- ♦ Specialist Physician in Thoracic Surgery at Bellvitge University Hospital
- ♦ Intern in the Thoracic Surgery Unit at Bellvitge University Hospital
- ♦ Specialist in Thoracic Surgery at Bellvitge University Hospital
- ♦ Doctor of Medicine from the University of Barcelona
- ♦ University Expert in Thoracic Ultrasound from the University of Barcelona
- ♦ Postgraduate in Lean Practitioner from the Polytechnic University of Catalonia
- ♦ Bachelor of Medicine from the University of Barcelona

### Dr. Fuentes Martín, Álvaro

- ♦ Coordinator of MIR in Committee of the Spanish Society of Thoracic Surgery
- ♦ Specialist Physician of Thoracic Surgery at the Clinical University Hospital of Valladolid
- ♦ Member of the National Commission of the Specialty of Thoracic Surgery in the Ministry of Health
- ♦ PhD in Health Sciences Research from the University of Valladolid
- ♦ Resident Physician in Thoracic Surgery at the University Clinical Hospital of Valladolid
- ♦ Degree in Medicine from the Complutense University of Madrid
- ♦ Member of: Spanish Society of Thoracic Surgery (SECT)

**Dr. Aragón Álvarez, Sonsoles**

- ♦ Specialist in Anesthesiology and Resuscitation, UR Hospital
- ♦ Scientific researcher specialized in the study of the effect of medication on patients with anxiety
- ♦ Doctor of Medicine from the University of Valencia
- ♦ Bachelor of Medicine from the Autonomous University of Valencia

**Dr. Gómez Hernández, María Teresa**

- ♦ Specialist Physician in Thoracic Surgery at the University Hospital of Salamanca
- ♦ Specialty Resident in Thoracic Surgery at the University Hospital of Salamanca
- ♦ Doctor of Medicine from the University of Salamanca
- ♦ Master's Degree in Medical Management and Clinical Management from the UNED
- ♦ Master's Degree in Health Research Methodology in Health Sciences from the University of Salamanca
- ♦ Bachelor's Degree in Medicine from the University of Salamanca

**Dr. Fra Fernández, Sara**

- ♦ Specialist Physician in Thoracic Surgery at the Ramón y Cajal University Hospital
- ♦ Resident in Thoracic Surgery at the Ramón y Cajal University Hospital
- ♦ Scholarship holder of the European Association of Cardiothoracic Surgery (EACTS) Program
- ♦ Master's Degree in Thoracic Oncology from the CEU San Pablo University
- ♦ University Expert in Pleural Pathology from the Autonomous University of Barcelona
- ♦ Degree in Medicine from the University of Santiago de Compostela

**Dr. Rodríguez Taboada, Pau**

- ♦ Clinical Chief of the Thoracic Surgery Service at the Joan XXIII University Hospital in Tarragona
- ♦ Coordinator of the Joint Thoracic Surgery Department at the Joan XXIII University Hospital in Tarragona and the Sant Joan University Hospital in Reus
- ♦ Associate Physician of the Thoracic Surgery Department at the Joan XXIII University Hospital in Tarragona
- ♦ Assistant Physician in the Thoracic Surgery Department at the Sant Joan University Hospital in Reus
- ♦ Member of the Catalan Thoracic Surgery Society
- ♦ Specialty MIR in Thoracic Surgery at the Bellvitge University Hospital
- ♦ Bachelor of Medicine from the University of Barcelona
- ♦ Member of: Catalan Thoracic Surgery Society

**Dr. Sánchez García, Fernando**

- ♦ Physician Specialist in Anesthesiology and Resuscitation at La Ribera University Hospital
- ♦ Manager at La Ribera University Hospital
- ♦ Expert in Pain Therapy
- ♦ Bachelor of Medicine

**Dr. Rivas Doyague, Francisco**

- ♦ Specialist Physician in Thoracic Surgery at Bellvitge University Hospital
- ♦ Specialist Physician in Thoracic Surgery at Sant Joan Hospital in Reus
- ♦ Specialty MIR in Thoracic Surgery at the Bellvitge University Hospital
- ♦ Certified in the da Vinci System by the IRCAD-EITS da Vinci Training Center, France
- ♦ University Expert in Thoracic Ultrasound by the University of Barcelona
- ♦ Degree in Medicine from the University of Valladolid

**Dr. Cabañero Sánchez, Alberto**

- ♦ Thoracic Surgeon at the Ramón y Cajal University Hospital in Madrid
- ♦ Medical Intern Resident in the specialty of Thoracic Surgery at the University Hospital Ramón y Cajal
- ♦ Degree in Medicine and Surgery from the University of Alcalá

**Dr. Miñana Aragón, Encarna**

- ♦ Attending Physician of Anesthesiology, Resuscitation and Pain Therapy at La Ribera University Hospital
- ♦ Attending Physician in Anesthesiology, Resuscitation and Pain Therapy at La Fe University Hospital in Valencia
- ♦ Attending Physician in Anesthesiology at Malva-Rosa Hospital
- ♦ Specialist in Anesthesiology, Resuscitation and Pain Therapy at La Fe University Hospital in Valencia
- ♦ Doctor of Medicine from the Autonomous University of Barcelona  
Bachelor of Medicine and Surgery from the Autonomous University of Barcelona



*Take this opportunity to learn about the latest advances in this field in order to apply it to your daily practice"*

# 08 Certificate

This Postgraduate Diploma in Robotic Thoracic Surgery guarantees, in addition to the most rigorous and up-to-date program, access to an Postgraduate Diploma issued by TECH Global University.



“

*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"*

This private qualification will allow you to obtain a diploma for the **Postgraduate Diploma in Robotic Thoracic Surgery** 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.

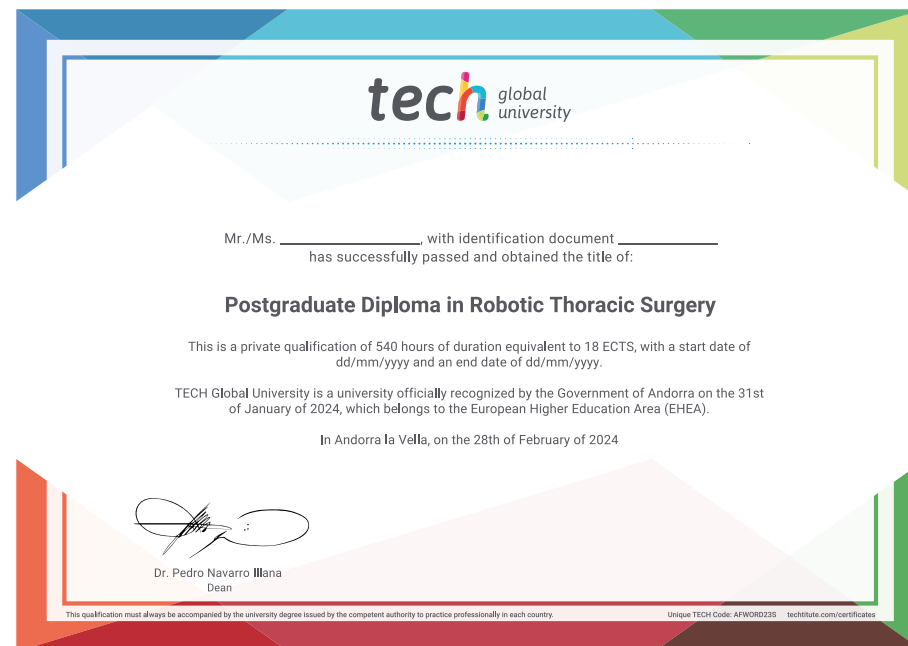
This **TECH Global University** private qualification, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Robotic Thoracic Surgery**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**





## Postgraduate Diploma Robotic Thoracic Surgery

- » Modality: online
- » Duration: 6 months
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- » Schedule: at your own pace
- » Exams: online

# Postgraduate Diploma

## Robotic Thoracic Surgery