

# Postgraduate Certificate

## Valvular Pathology



## Postgraduate Certificate Valvular Pathology

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

Website: [www.techinstitute.com/us/medicine/postgraduate-certificate/valvular-pathology](http://www.techinstitute.com/us/medicine/postgraduate-certificate/valvular-pathology)



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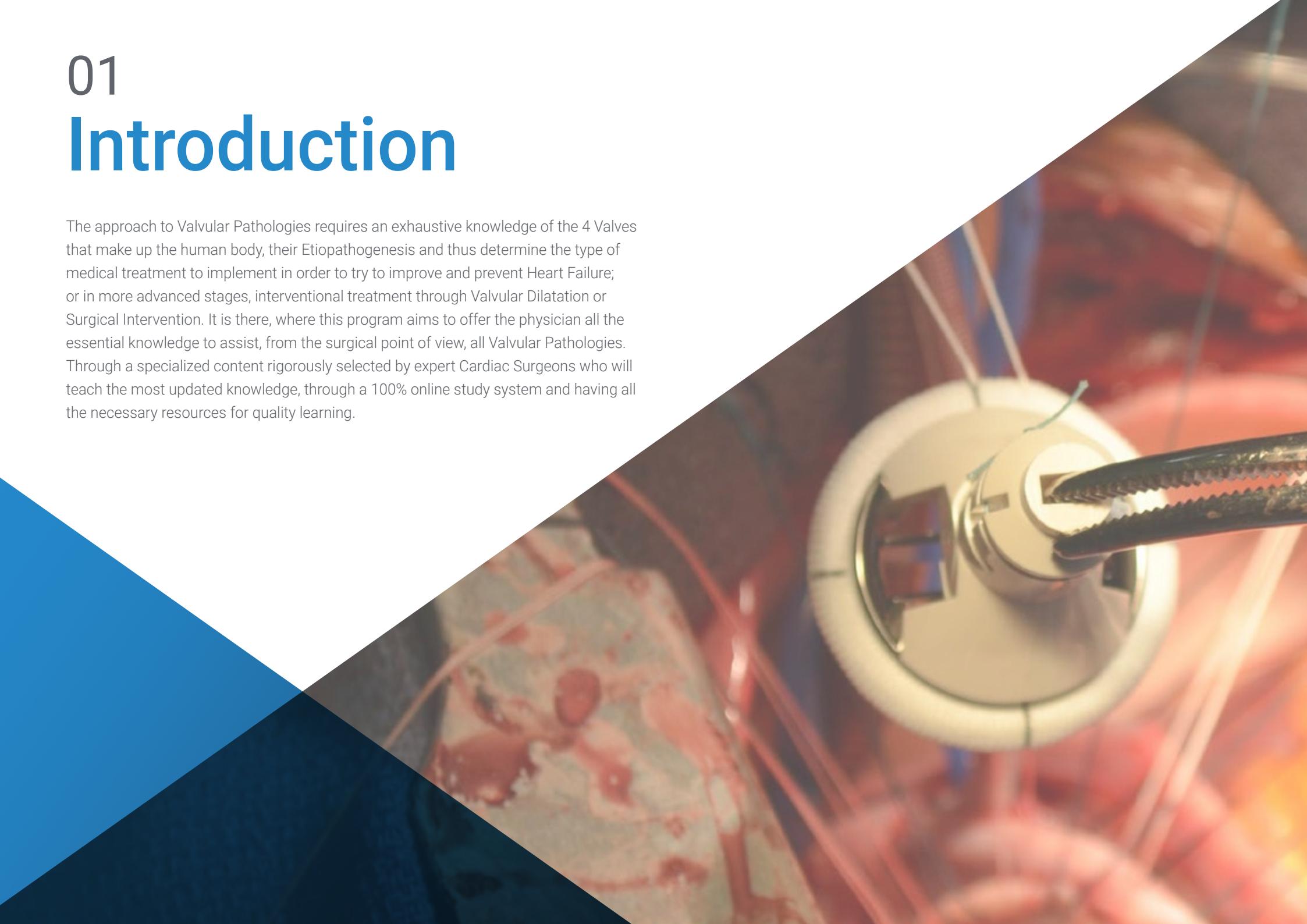
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01

# Introduction

The approach to Valvular Pathologies requires an exhaustive knowledge of the 4 Valves that make up the human body, their Etiopathogenesis and thus determine the type of medical treatment to implement in order to try to improve and prevent Heart Failure; or in more advanced stages, interventional treatment through Valvular Dilatation or Surgical Intervention. It is there, where this program aims to offer the physician all the essential knowledge to assist, from the surgical point of view, all Valvular Pathologies. Through a specialized content rigorously selected by expert Cardiac Surgeons who will teach the most updated knowledge, through a 100% online study system and having all the necessary resources for quality learning.



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You will deepen in the most relevant studies regarding  
the different types of Prosthesis and Surgical  
Techniques for Valvular Pathology"

Heart Valve Disease can be congenital, as well as occur in adults due to many causes, such as Infections and other Heart Conditions. A disease that can cause many complications. Therefore, acquiring the essential knowledge to approach, from the surgical point of view, all Valvular Pathologies is a subject of interest for the specialist in the area of Cardiology and Cardiac Surgery.

In this Postgraduate Certificate in Valvular Pathology, the pathologies related to the valves and their causes are studied in depth. Reference is made to the best approach to Valvulopathies through specific units and the importance of the *Heart Team* for decision-making. Thus, it deepens in the Physiopathology of each Valve, in Endocarditis and in all the Surgical Techniques for its treatment, including Mini-Incision Surgery. Finally, a review of the most relevant studies on the results of the different types of prostheses and surgical techniques is presented.

All this, through a completely online study system, which provides flexibility to the practitioner by being able to connect from any device and adjusting the schedule of your choice, obtaining the degree in 6 weeks. With the contents available from the first day, 24 hours a day and designed under an innovative methodology of reiterative character, the *Relearning*. This method is characteristic of TECH's programs and has benefited millions of students around the world.

This **Postgraduate Certificate in Valvular Pathology** is the most comprehensive and up-to-date scientific program on the market. The most important features include:

- ◆ The development of case studies presented by Cardiology experts
- ◆ The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where 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



*The agenda of this program delves into the Physiopathology of each Valve, Endocarditis and all the Surgical Techniques for its treatment, including Mini-Incision Surgery"*

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*This Postgraduate Certificate made to the best approach to Valvulopathies through specific units and the importance of the Heart Team in the Development of decision making”*

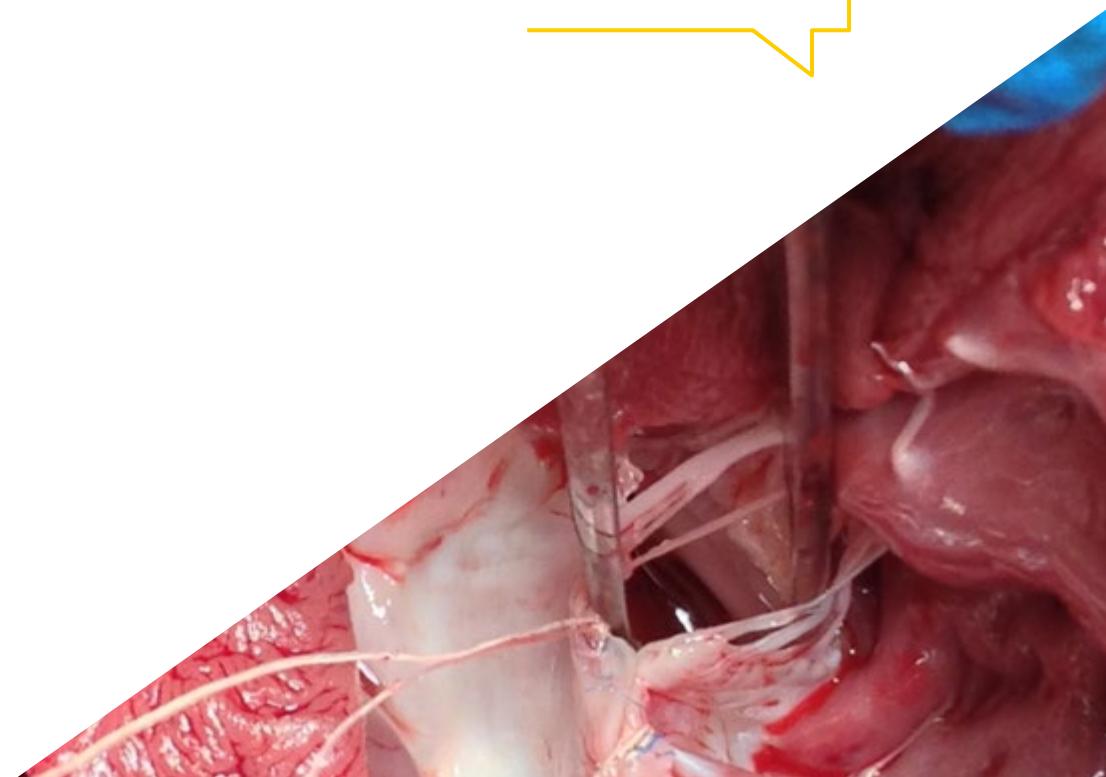
TECH offers a large community of students and professors, which gives you the opportunity to share multicultural and multidisciplinary experiences.

It delves into the pathologies related to the valves and their causes.

The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.



02

# Objectives

The objective of this refresher program developed under an innovative study system of cutting-edge methodology and 100% online, is to acquire the essential knowledge to address, from the surgical point of view, all Valvular Pathologies. So that the specialist can perform in an updated, safe and state-of-the-art way.



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*Open yourself to new opportunities and experiences with an update program that has everything about Valvular Pathology"*



## General Objectives

- ◆ Deepen the knowledge of Valvular Pathology and their forms of treatment
- ◆ Analyze the importance of new technologies involved in the management and control of cardiac pathologies and imaging techniques
- ◆ Obtain the necessary knowledge to improve patient recovery, avoid complications and reduce mortality
- ◆ Obtain the most up-to-date knowledge to approach in an integral way and from the surgical point of view, as appropriate, all the Valvular Pathologies

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*TECH has what you need to update  
you on Valvular Pathology. Start now”*





## Specific Objectives

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- ♦ Understand the surgical approach to valvular pathologies
- ♦ Deepen in the causes of valvular pathologies and their treatment
- ♦ Understand the importance of the *heart team* in decision making in the approach to valvular pathologies
- ♦ Deepen in all surgical techniques for its treatment, including mini-incision surgery
- ♦ Evaluate different results of the different types of prostheses and surgical techniques used

03

# Course Management

A Postgraduate Certificate in Valvular Pathology with the most exclusive content selected by renowned professional cardiac surgeons, who currently hold positions of responsibility in prestigious hospitals in the country, which provides a deep experiential sense. The professional and human quality allows us to give a touch of warmth and closeness within a 100% virtual environment, thanks to the resources TECH has available for this purpose.



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Cardiac surgeons who are experts in the field and  
teachers with invaluable professional experience lead  
*this Valvular Pathology refresher program"*

## International Guest Director

With pioneering contributions in the field of **cell therapy for cardiovascular diseases**, Dr. Philippe Menasché is considered one of the most prestigious surgeons in the world. The researcher has been awarded several prizes such as the Lamonica of Cardiology laureates of the French Academy of Sciences and the Matmut for Medical Innovation, as well as the Earl Bakken Award for his scientific achievements.

His work has established him as a reference in the understanding of **Heart Failure**. In relation to this pathology, he stands out for having participated in the **first intramyocardial transplant of autologous skeletal myoblasts**, marking a true therapeutic milestone. He has also led clinical trials on the use of **cardiac progenitors derived from human embryonic stem cells**, as well as the application of tissue therapy combined with these progenitors in patients with terminal heart disease.

His research has also revealed the **crucial role of paracrine signals in cardiac regeneration**. As a result, his team has succeeded in developing cell therapy strategies based exclusively on the use of the **secretome**, with the aim of optimizing the clinical effectiveness and transmissibility of these procedures.

At the same time, this specialist maintains an active work as a surgeon at the European Hospital Georges Pompidou. In this institution, he also directs the **Inserm 970 Unit**. On the other hand, in the academic field, he is a professor in the **Department of Biomedical Engineering** at the University of Alabama at Birmingham, as well as at the University of Paris Descartes.

He holds a PhD in Medical Sciences from the Faculty of Paris-Orsay. He has also served as Director of the **French National Institute of Health and Medical Research** and, for almost two decades, he managed the **Biosurgical Research Laboratory of the Carpentier Foundation**.



## Dr. Menasché, Philippe

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- Director of the National Institute of Health and Medical Research (INSERM), Paris, France
- Clinical Surgeon in the Heart Failure Unit of the European Hospital Georges Pompidou, Paris, France
- Regenerative Therapies for Heart and Vascular Diseases Team Leader
- Professor of Thoracic and Cardiovascular Surgery at the University Paris Descartes
- Academic Consultant to the Department of Biomedical Engineering at the University of Alabama at Birmingham
- Former Director of the Biosurgical Research Laboratory of the Carpentier Foundation
- Doctor of Medical Sciences from the Faculty of Paris-Orsay
- Member of: National Council of Universities, Medical and Scientific Council of the Agency for Biomedicine, Working Group on Regenerative and Reparative Cardiovascular Medicine of the European Society of Cardiology

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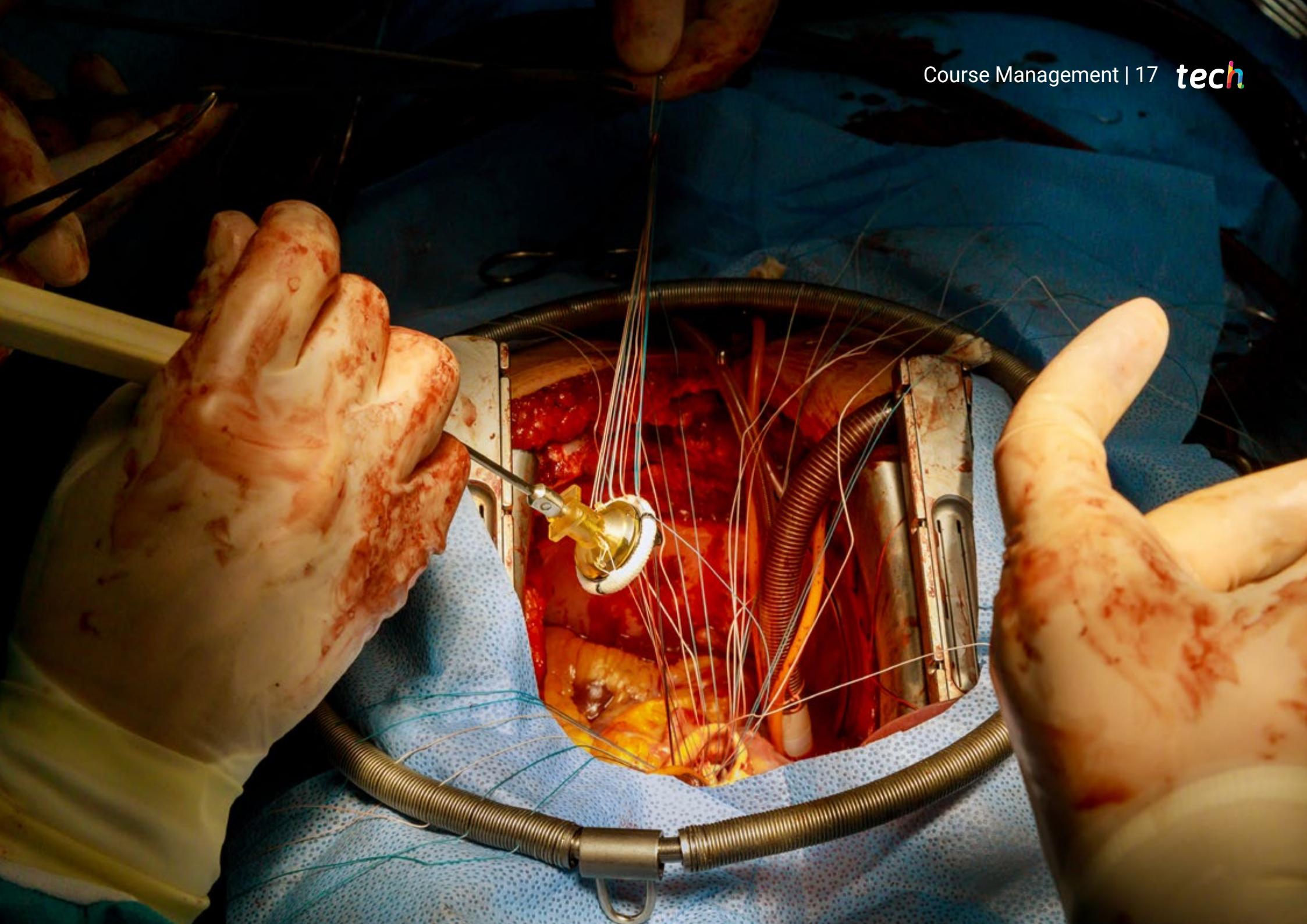
*Thanks to TECH you will be able to learn with the best professionals in the world"*

## Management



### **Dr. Rodríguez Roda, Jorge**

- Head of Cardiac Surgery Service by competitive examination. Ramón y Cajal University Hospital
- Cardiac Surgeon of the Cardiac Surgery Unit. Montepríncipe Madrid Hospital HM Group
- Professor Collaborating in the Department of Surgery. Alcalá de Henares University
- Assistance Coordinator of the Cardiovascular Surgery Service. Gregorio Marañón General University Hospital
- Attending Physician of Cardiovascular Surgery. Gregorio Marañón General University Hospital
- Attending Physician of Cardiovascular Surgery Gómez Ulla Central Defense Hospital
- Attending Physician of Cardiovascular Surgery Hospital del Aire (Madrid)
- Resident physician of the Cardiovascular Surgery specialty in the Cardiovascular and Thoracic Surgery Service. Puerta de Hierro University Hospital (Madrid)
- Medical Officer of the Common Bodies of Defense
- Member of important scientific committees in Europe, Speaker and moderator of a variety of congresses and events related to cardiac surgery
- Author and contributor to countless publications, journals and books aimed at the medical community related to cardiac surgery
- Degree in Medicine and Surgery from the Complutense University of Madrid
- Executive Master's Degree in Healthcare Organization Management ESADE
- Healthcare Organization Leadership Program at Georgetown University. USA
- Resident Medical Intern in the specialty of Cardiovascular Surgery in the Department of Cardiovascular and Thoracic Surgery, Hospital Puerta Hierro, Autonomous University of Madrid
- Diploma of Advanced Studies (DEA) of the Department of Surgery of the Faculty of Medicine of the Complutense University of Madrid
- General Practitioner in the Spanish National Health System and in the Public Social Security Systems of the Member States of the European Communities
- Military Health Corps



04

# Structure and Content

A 100% online study system where the health professional will have access to a variety of research articles, real case studies, meeting rooms, private chats with professors and interactive summaries of each unit. Its design is based on *Relearning*, an innovative method that facilitates the learning and understanding of the syllabus, and is integrated with the student from the first day, for a progressive and natural updating of knowledge.



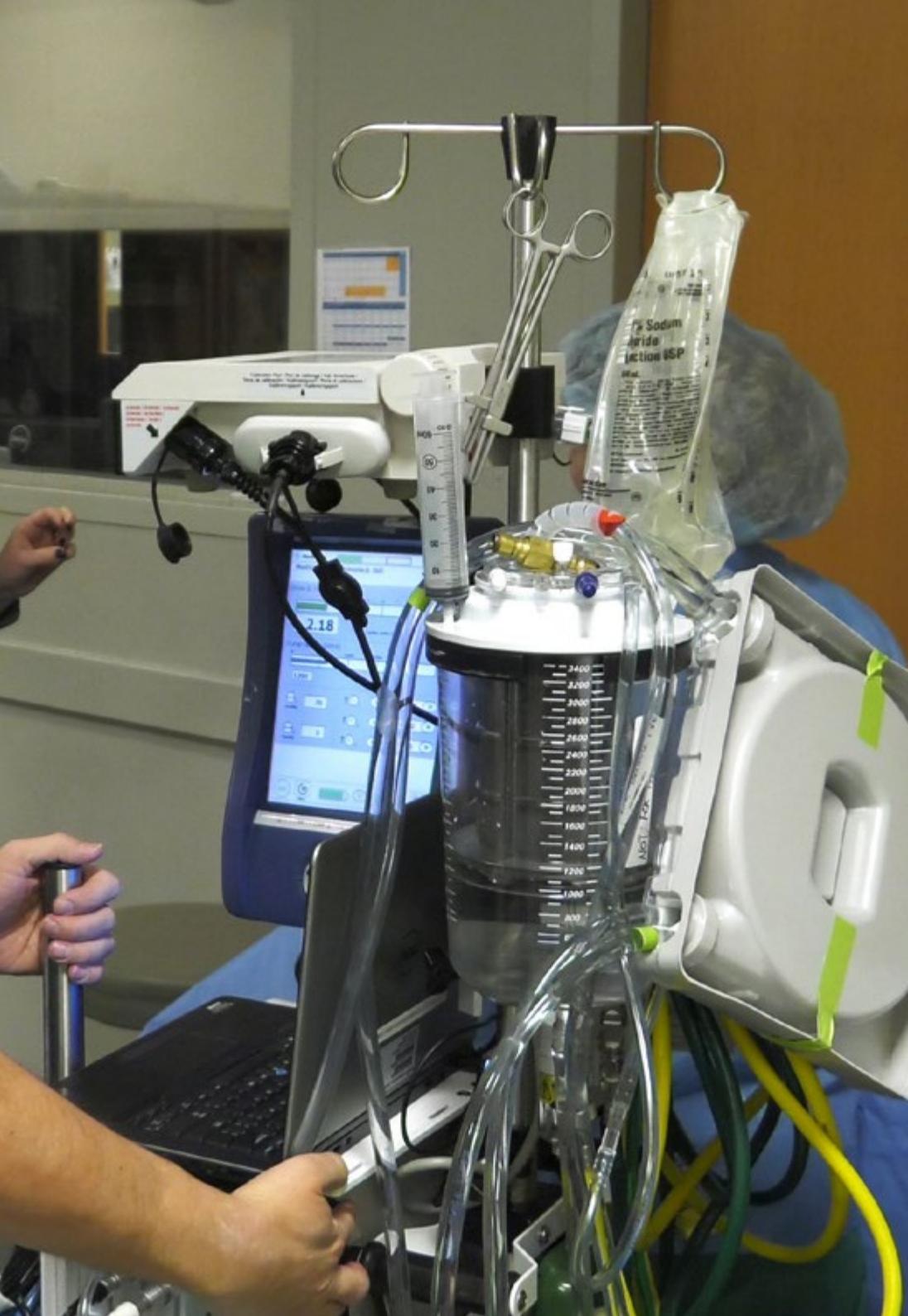
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*The methodology implemented by TECH guarantees quality education and flexible development for today's professional”*

## Module 1. Valvular Pathology

- 1.1. Etiopathogenesis.
- 1.2. Valvular Heart Team Specific Units
- 1.3. Types of Valve Prostheses
  - 1.3.1. Historical Evolution of Valve Prostheses
  - 1.3.2. Mechanical Prostheses
  - 1.3.3. Biological Prostheses
  - 1.3.4. Homograft
  - 1.3.5. Xenografts
  - 1.3.6. Autograft
- 1.4. Mitral Valve
  - 1.4.1. Anatomy and Function
  - 1.4.2. Pathophysiology
  - 1.4.3. Replacement and Repair Techniques
- 1.5. Tricuspid Valve
  - 1.5.1. Anatomy and Function
  - 1.5.2. Pathophysiology
  - 1.5.3. Replacement and Repair Techniques





- 1.6. Aortic Valve
  - 1.6.1. Anatomy and Function
  - 1.6.2. Pathophysiology
  - 1.6.3. Replacement and Repair Techniques
- 1.7. Pulmonary Failure
  - 1.7.1. Anatomy and Function
  - 1.7.2. Pathophysiology
  - 1.7.3. Replacement and Repair Techniques
- 1.8. Mini-invasive Surgery
- 1.9. Results of Valvular Surgery Studies
- 1.10. Endocarditis
  - 1.10.1. Etiology
  - 1.10.2. Indications
  - 1.10.3. Risk Factors
  - 1.10.4. Treatment

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*The most innovative methodology in  
a 100% online system facilitates the  
development of your learning. Enroll Now”*

05

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization”*

## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

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



According to Dr. Gérvás, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

#### The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*





At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

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

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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

This program offers the best educational material, prepared with professionals in mind:



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

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



#### Interactive Summaries

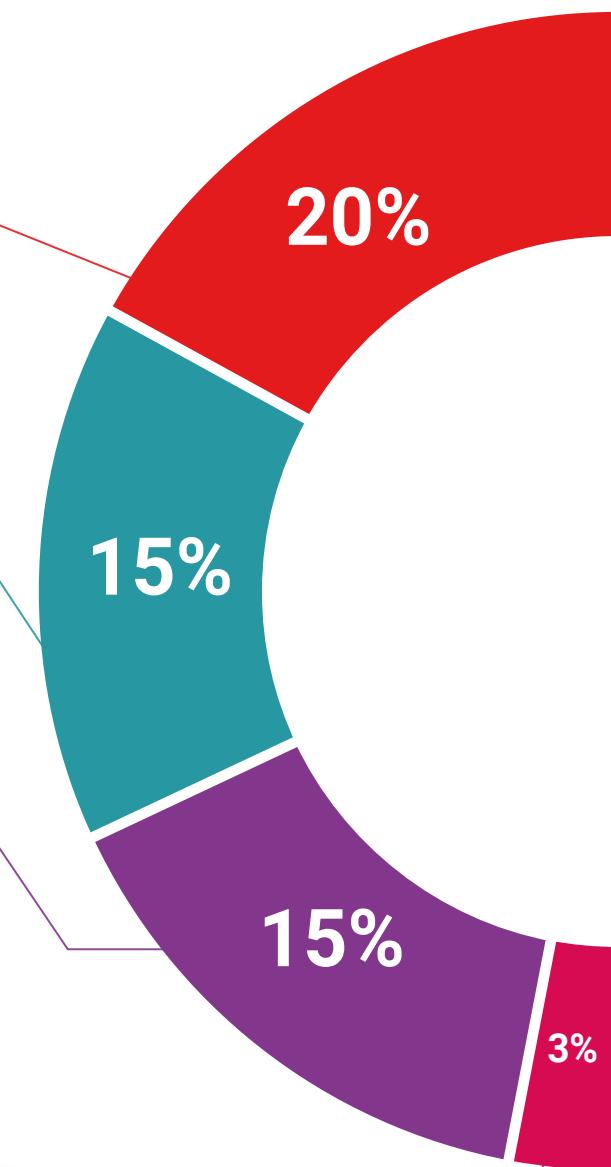
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

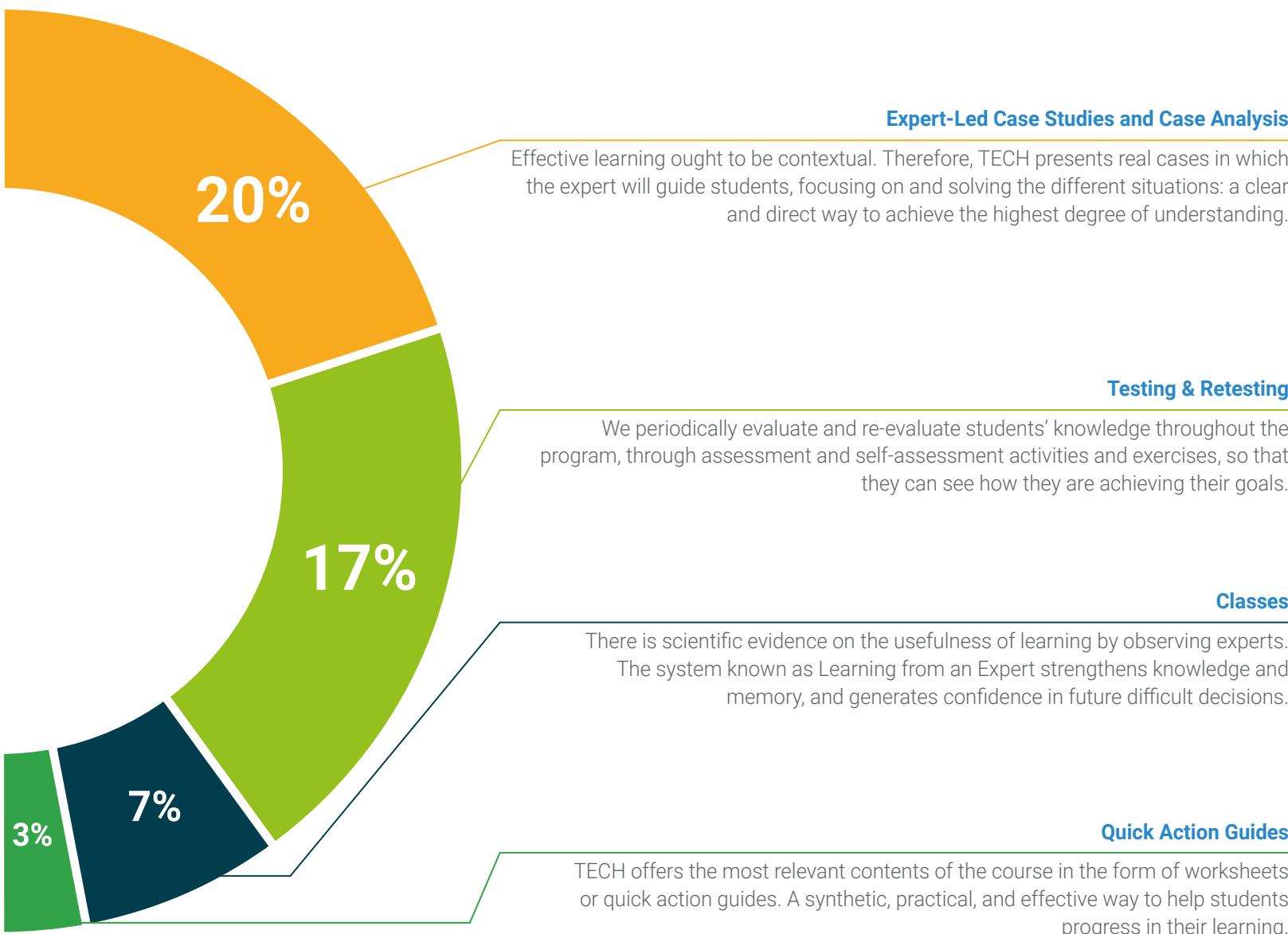
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





06

# Certificate

The Postgraduate Certificate in Valvular Pathology, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by TECH Global University.



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*Successfully complete this training program  
and receive your diploma without travel or  
laborious paperwork"*

This program will allow you to obtain your **Postgraduate Certificate in Valvular Pathology** 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 Valvular Pathology**

**Modality: online**

**Duration: 6 weeks**

**Accreditation: 6 ECTS**



\*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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