Postgraduate Diploma

Surgery, Anesthesia and Intensive Care of Congenital Heart Diseases

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Postgraduate Diploma

Surgery, Anesthesia and Intensive Care of Congenital Heart Diseases

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

Website: **www.techtitute.com/us/medicine/postgraduate-diploma/surgery-anesthesia-intensive-care-congenital-heart-diseases**

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01

Introduction

The anesthetic management and intensive care required by pediatric patients differ from those of adults, as well as their age, since the techniques and procedures used to treat a neonate are not the same as those used with an adolescent. The attention needed to place medication to block tactile and painful sensitivity in these cases is extremely high, since the field of action is limited and there is a greater risk of invading the blood vessels. For this reason, TECH Tchnological University has designed a program that will serve as a guide for the specialist to update everything related to this area in the pre and post-operative period, as well as in relation to intensive care that requires congenital heart diseases: everything, in a comfortable online format that will allow you to catch up on Pediatric Cardiology through a program adapted to the rigor of the medical field.

A rigorous and comprehensive program that will bring you up to date on anesthesia surgery and intensive care in congenital heart disease in pediatric patients, 100% online"

Abnormal heart formation during fetal development occurs in millions of children each year and the causes are still unknown. These congenital heart diseases can seriously affect newborn health, causing a wide range of symptoms: arrhythmias, cyanosis, respiratory difficulties, exaggerated tiredness, edema, etc. This type of disease in children requires specific management differentiated from that of adults based on their age and the degree of development of their bodies. Therefore, in cases where surgery must be performed, where anesthesia is required or where intensive care must be applied, specialists must act with special attention and following the recommended guidelines for each context.

And in order to bring them up to date on what's new in this sector, TECH Global University and its team of pediatric cardiac professionals have developed a comprehensive program that is perfect for this purpose. This is a 450-hour academic experience through which students will be able to learn, in detail, the advances that have been made in managing heart disease, cardiomyopathies and cardiac tumors, as well as the transition and the different conditions that may be encountered in the consultation room. You will also be able to update your knowledge in relation to the most innovative surgical techniques, as well as pre- and post-operative anesthetic management.

All this 100% online and over a period of 6 months, during which students will have unlimited access to the Virtual Campus where the contents are stored. It is compatible with any device with internet connection, whether it is a PC, tablet or cell phone, allowing students to connect whenever they want, with no limits, no schedules and no face-to-face classes. In addition, the entire content can be downloaded for your convenience, so that you can access it even after the academic experience has been completed. Therefore, specialists will be able to keep up to date without neglecting their own practice, implementing the most innovative and effective strategies and techniques in the field of Pediatric Cardiology and Congenital Heart Diseases.

This **Postgraduate Diploma in Surgery, Anesthesia and Intensive Care of Congenital Heart Diseases** contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of practical cases presented by experts in Pediatric Cardiology
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the self-assessment process can be carried out 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 work with the latest information regarding heart disease, cardiomyopathies and cardiac tumors in infant and neonatal patients"

You will have 450 hours of diverse audiovisual content, allowing you to contextualize the information in the syllabus and delve into each section in a personalized and dynamic way"

Would you like to know more about the advances that have been made in myocarditis and cardiomyopathy care? Then this program is perfect for you.

You will have unlimited access to the Virtual Campus, which has been optimized for any device with an internet connection, whether it either PC, tablet or cell phone.

The program includes, in its teaching staff, professionals from the sector who bring to this program the experience of their work, in addition to recognized specialists from prestigious reference societies and 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 learn 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 throughout the program. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

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Objectives

Pediatric Cardiology, like all medical disciplines, is constantly being updated thanks to the advances that are made every year in science. For that reason, having a qualification like this is essential for specialists to be able to get up to date through a program adapted to their needs and the high demands of the sector. Therefore, the objective is to provide students with all the material they need to achieve this in just 6 months, with the best results guaranteed.

Whatever your goals are, this program has been designed so that you are guaranteed to achieve them in less than 6 months"

General Objectives

- Update specialists' knowledge of intensive care, anesthesia use and surgical techniques in congenital heart disease in pediatric patients
- Know, in detail, the scientific advances that have been made in the clinical management of different heart diseases, cardiomyopathies and tumors in these cases

A program that includes a catalog of preconception advice prepared by a team of experts in Pediatric Cardiology"

Specific Objectives

Module 1. Heart Disease, Cardiomyopathies, Tumors

- Study the basic aspects of invasive cardiology essential for clinical cardiology professionals
- Specialize in Kawasaki disease
- Differentiate myocarditis and cardiomyopathy

Module 2. Transition and Congenital Heart Disease in Adults

- Gain in-depth understanding of the transition of patients from pediatric to adult age, focusing especially on the new problems which they could face
- Analyze the patient with single ventricle
- Master the types of arrhythmias, conduction disturbances and electrophysiological abnormalities in adults with congenital heart disease
- Delve into follow-up protocols

Module 3. Surgery, Anesthesia and Intensive Care of Congenital Heart Diseases

- Master the surgical techniques of septal defects and rings
- Management of postoperative anesthetics
- Analysis of cardiac tamponade
- Distinguish the different types of coronary abnormalities

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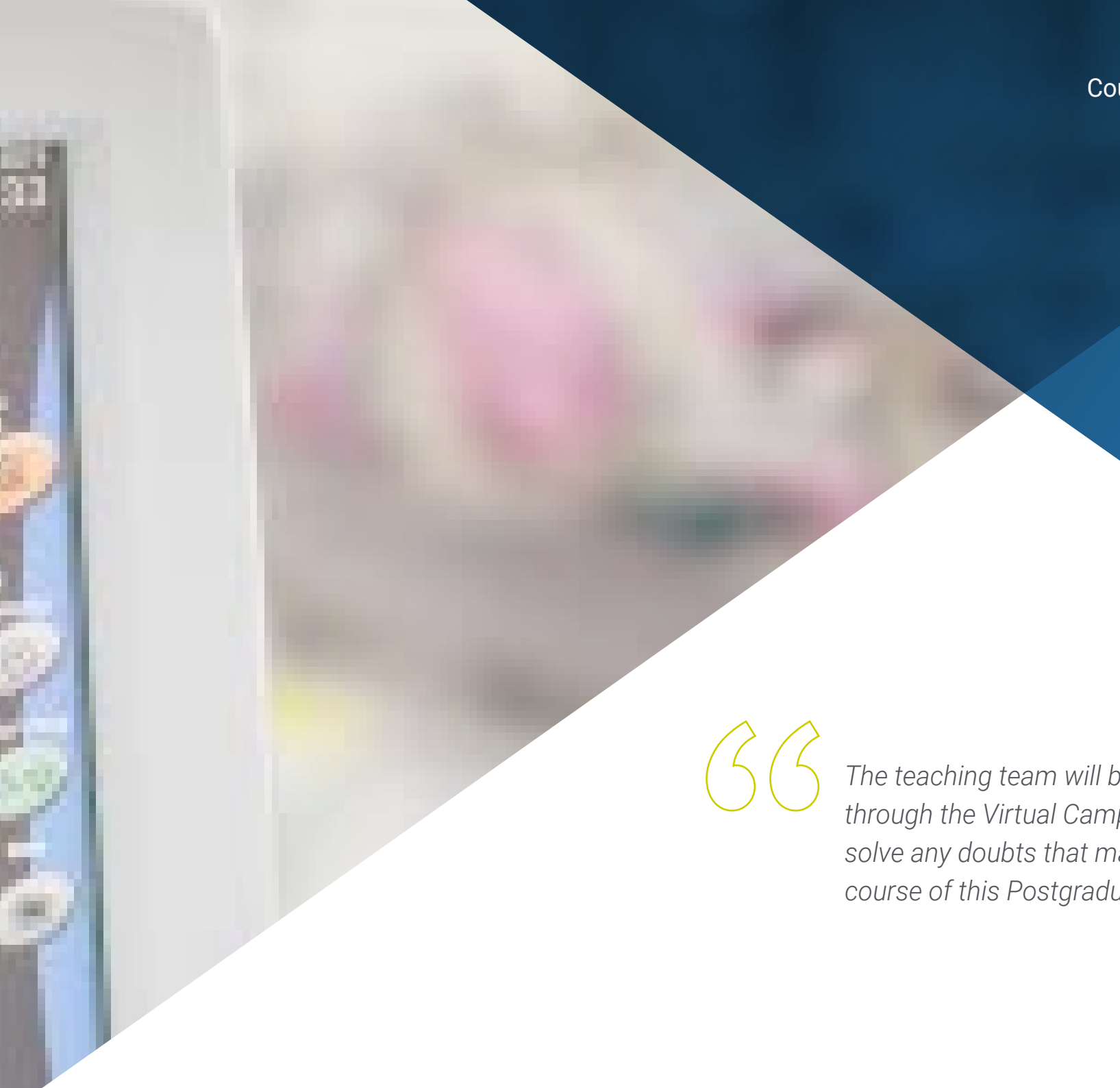
Course Management

Among TECH's highest expectations is to always offer the best programs, which will help students to update their knowledge in a guaranteed way and in the most complete and exhaustive way possible. For this reason, TECH believes that including a team of top-quality professionals in its teaching staff is a significant asset that it can use to achieve this. Therefore, this Postgraduate Diploma's faculty is made up of specialists in Pediatric Cardiology characterized by their long and extensive professional experience, which they will make available to the students, allowing them to update their knowledge based on their experience.



The teaching team will be at your disposal through the Virtual Campus to help you solve any doubts that may arise during the course of this Postgraduate Diploma"

International Guest Director

Dr. Luc Mertens is a leading international figure in the field of Pediatric Cardiology, with a special focus on echocardiography. A graduate of the Faculty of Medicine of the University of Leuven in Belgium, he has built a remarkable career since then. As such, he has trained as a Pediatrician and Pediatric Cardiologist at the University Hospitals of Leuven, acquiring a solid clinical and research background.

Since then, he has played a crucial role as a Pediatric Cardiologist at the same hospitals, having risen to a position of high responsibility as Section Head of Echocardiography at the Hospital for Sick Children in Toronto, Canada, thanks to his well-deserved merits as a medical professional.

Furthermore, there is no doubt that Dr. Mertens has left an indelible mark on the field of pediatric echocardiography, both clinically and academically. Indeed, his leadership in the organization of accreditation in this field in Europe has been fundamental, being recognized for his contribution within the European Association of Pediatric Cardiology and the European Association of Echocardiography. He has also played a leading role in the Pediatric Council of the American Society of Echocardiography.

In addition to his clinical and leadership work, Dr. Mertens is a prolific researcher, with more than 150 peer-reviewed articles and significant contributions to the development and validation of new echocardiographic techniques to assess cardiac function in children. Likewise, his commitment to academic excellence is reflected in his participation in the editorial board of several scientific journals, as well as in his role as editor of one of the leading textbooks in the field of pediatric and congenital echocardiography.

Dr. Luc Mertens

- Section Head, Echocardiography, The Hospital for Sick Children, Toronto, Canada
- Pediatric Cardiologist at the University Hospitals of Leuven
- Specialist in Pediatrics and Pediatric Cardiology at the University Hospitals of Leuven and at the Mayo Clinic in Rochester
- Doctor of Medical Sciences from the University of Leuven
- Degree in Medicine from the University of Leuven
- Member of: European Association of Pediatric Cardiology, European, Association of Echocardiography , American Society of Echocardiography

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

Management

Dr. Gutiérrez Larraya, Federico

- Head of the Pediatric Cardiology at La Paz University Hospital Madrid, Spain
- Head of the Pediatric Cardiology at Ruber International Hospital Madrid, Spain
- Associate Professor of Medicine at the Complutense University of Madrid
- PhD in Medicine from the Complutense University of Madrid
- Degree in Medicine and Surgery from the Complutense University of Madrid
- Resident in Pediatric and Interventional Cardiology at the Children's Hospital of The King's Daughters. Virginia, United States
- Master's Degree in Health Management and Economics from the European Institute of Health and Social Welfare
- Executive Master's Degree in Healthcare Organization Management by ESADE
- President of the Permanent Management Committee at La Paz Children's University Hospital. Madrid, Spain

Dr. Merino Llorens, José Luís

- Head of the Arrhythmia and Robotized Cardiac Electrophysiology Unit at La Paz University Hospital
- Cardiologist-electrophysiologist at Quirón Ruber Juan Bravo Hospital
- Cardiologist-electrophysiologist at Nisa Pardo de Aravaca Hospital
- Principal investigator in several international multicenter studies
- Author of hundreds of scientific articles on his medical specialty
- President of the Electrophysiology and Arrhythmias Department of the Spanish Society of Cardiology
- Chairman of the Cardiac Rhythm Committee of the European Society of Cardiology
- PhD in Medicine from the Complutense University of Madrid
- Master's Degree in Healthcare Unit Management from ESADE
- Award for the best scientific communication on Arrhythmias and Electrophysiology at the Congress on Cardiovascular Diseases

Professors

Dr. González Rocafort, Álvaro

- Head of Congenital Heart Surgery at HM Montepríncipe University Hospital
- Surgeon of Congenital Cardiopathies at the Insular University Hospital Complex
- Maternal and Infant Hospital of Gran Canaria
- Congenital Heart Disease Surgeon at La Paz University Hospital
- Specialist Physician in San Carlos Clinical Hospital
- Surgical Coordinator of Cardiac Transplantation at La Paz Hospital
- PhD in Medicine from the Complutense University of Madrid
- Master's Degree in Health Management by UDIMA
- Member of: European Association of Cardiothoracic Surgery, European Association of Congenital Heart Surgery, Spanish Society of Cardiovascular Surgery, Spanish Society of Pediatric Cardiology and Congenital Heart Disease

A path to achieve knowledge and professional growth that will propel you towards a greater level of competitiveness in the job market"

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Structure and Content

The development of this Postgraduate Diploma's content has been carried out following the guidelines of the prestigious and effective Relearning methodology, which consists of reiterating the most important concepts throughout the syllabus to ensure that students' knowledge is up-to-date in a natural and progressive manner. This way, you don't have to spend extra hours memorizing. In addition, it is based on the inclusion of real use cases, which must be solved by students in order to improve their skills and better internalize the techniques and strategies of the profession.

Expertly crafted curriculum and quality content are the key to a successful update"

Module 1. Heart Disease, Cardiomyopathies, Tumors

1.1. Congenital Heart Disease
  1.1.1. Introduction
  1.1.2. Non-Cyanogenic Heart Disease
  1.1.3. Cyanogenic Heart Disease
1.2. Myocarditis and Cardiomyopathy
1.3. Pericarditis, Endocarditis and Kawasaki Disease
1.4. Cardiologic Involvement in Pediatric Systemic Diseases

Module 2. Transition and Congenital Heart Disease in Adults

2.1. Medical History, Anamnesis. Key Points. Echocardiogram. Imaging Tests in CHD in Adults. Diagnostic Catheter
2.2. Left to Right and Right to Left Short Circuits
2.3. Patients with a Single Ventricle
2.4. Post-Surgery Without Complications
2.5. Arrhythmias, Conduction Disturbances and Electrophysiological Abnormalities in Adults with Congenital Heart Disease
2.6. Monitoring Protocols
2.7. Preconception Counseling

Module 3. Surgery, Anesthesia and Intensive Care of Congenital Heart Diseases

3.1. Principles of Congenital Cardiac Surgery
  3.1.1. Introduction and History of Congenital Heart Disease
  3.1.2. Principles of ECLS and ECMO
  3.1.3. Ventricular and Transplant Care
3.2. Surgical Techniques on Septal Defects and Rings. Updates
  3.2.1. ICA and IVC
  3.2.2. Partial Pulmonary Venous Abnormalities
  3.2.3. AV Channel
  3.2.4. AP Window. *Cor Triatriatum*
  3.2.5. TAPVR
  3.2.6. Vascular Rings, DAP

3.3. Right Heart Surgical Techniques. Updates
- 3.3.1. TOF
- 3.3.2. PAIVS and PAVSD
- 3.3.3. Tricuspid Valve
- 3.3.4. Vascular Rings, DAP: Raúl Sanchez
- 3.3.5. RVOT and Pulmonary Valve: Félix Serrano

3.4. Left Heart Surgical Techniques. Updates
- 3.4.1. Aortic Valve
- 3.4.2. Mitral Valve
- 3.4.3. Coronary Abnormalities

3.5. Surgical Techniques of the Main Veins Updates
- 3.5.1. Aorta, Coarctation of the Aorta, IAA
- 3.5.2. TGA and Truncus
- 3.5.3. Single Ventricle

3.6. Postoperative Anesthetic Management
- 3.6.1. Strategies to Reduce Perioperative Neurologic Vulnerability. Neurological Lesions
- 3.6.2. Low Postoperative Expense. Cardiac Dysfunction
- 3.6.3. Renal Complications. Renal Purification Techniques
- 3.6.4. Pulmonary Complications. Ventilatory Support Techniques. Pulmonary Hypertension Crisis

3.7. Other Complications
- 3.7.1. Post-Operation Infections Pneumonia, Sepsis
- 3.7.2. Infection of Surgical Wounds Mediastinitis
- 3.7.3. Cardiac Tamponade
- 3.7.4. Phrenic Plication and Others

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.

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

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

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

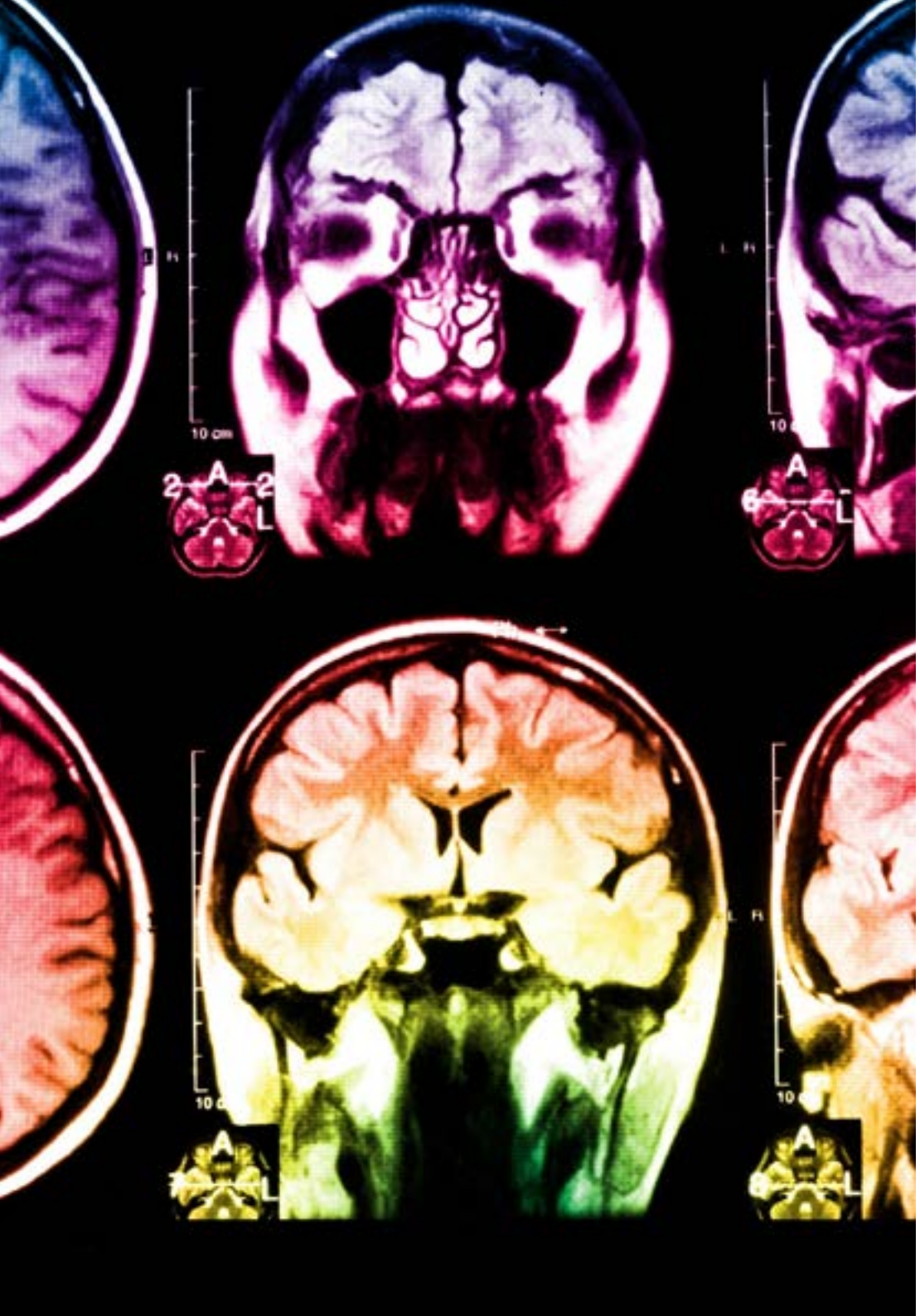
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better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

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.

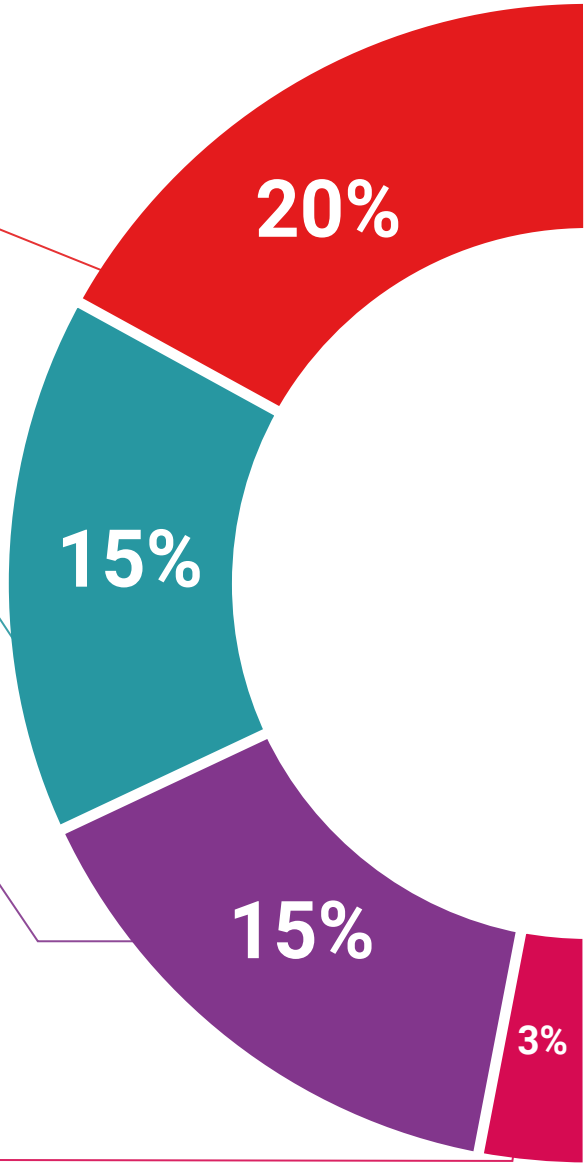
Interactive Summaries

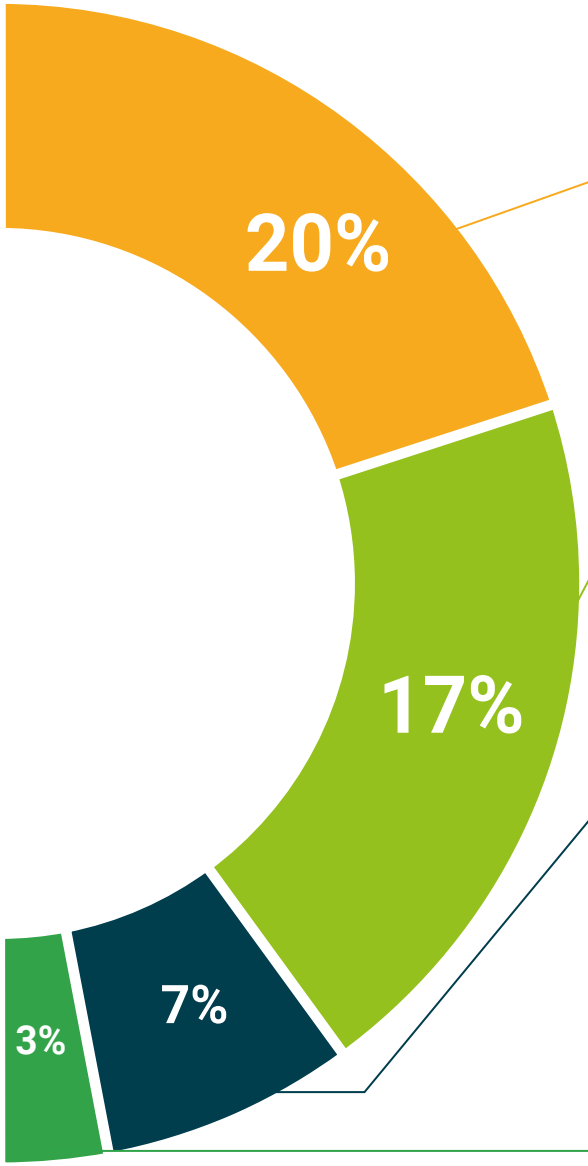
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.

06

Certificate

The Postgraduate Diploma in Surgery, Anesthesia and Intensive Care of Congenital Heart Diseases guarantees students, in addition to the most rigorous and up-to-date education, access to a 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 **Postgraduate Diploma in Surgery, Anesthesia and Intensive Care of Congenital Heart Diseases** 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.

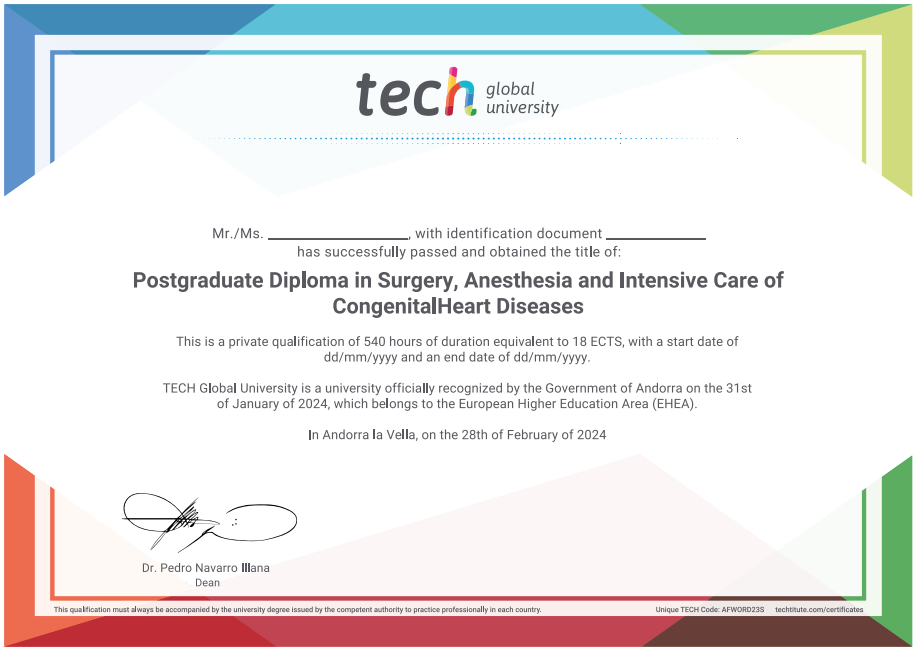
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Surgery, Anesthesia and Intensive Care of Congenital Heart Diseases**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**


tech global university

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

Postgraduate Diploma in Surgery, Anesthesia and Intensive Care of CongenitalHeart Diseases

This is a private qualification of 540 hours of duration equivalent to 18 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
Dean

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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