

# Postgraduate Certificate

Arterial Hypertension and Venous  
Thromboembolic Disease Related to  
Oncologic Therapies





## Postgraduate Certificate

### Arterial Hypertension and Venous Thromboembolic Disease Related to Oncologic Therapies

Course Modality: **Online**

Duration: **8 weeks**

Certificate: **TECH Technological University**

**9 ECTS Credits**

Teaching Hours: **225 hours.**

Website: [www.techtitute.com/us/medicine/postgraduate-certificate/arterial-hypertension-venous-thromboembolic-disease-related-oncologic-therapies](http://www.techtitute.com/us/medicine/postgraduate-certificate/arterial-hypertension-venous-thromboembolic-disease-related-oncologic-therapies)

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01

# Introduction

In recent years, the number of patients with arterial hypertension and thromboembolic diseases has increased exponentially. Therefore, it is important for qualified specialists to continue their training and to be constantly up to date, and to apply the latest techniques and tools in their daily practice.





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*Develop your skills and knowledge with this prestigious training provided by experts in the field"*

Cardiac toxicity (CT) occurs in 30% of the millions of patients treated today for oncological processes. This is a "serious complication that usually appears as heart failure and negatively affects the prognosis" of patients. The onset and severity of CT related to oncologic treatment are varied, depending mainly on each patient's individual susceptibility, the mechanism of action of the therapy, the capacity for early detection and the establishment of targeted treatment.

The objective of this course is to offer up to date training in an area of current relevance from the clinical point of view, whose knowledge is advancing at a dizzying pace, focused on the training of professionals interested in the subject.

Cardiologists, oncologists and hematologists with special interest in this field have with this course the opportunity to complete and update their knowledge in oncologic cardiology. The final objective of this training will be that the students learn the pathophysiological basis of the genesis of CT, as well as the ways to detect and treat it. Students will get to know, understand and apply the latest diagnostic techniques, and preventive and therapeutic measures specific to CT in oncology patients.

Emphasis will be placed on solving complex clinical problems by performing case studies based on real-life situations. In addition, it offers a unique opportunity to learn about the latest research advances in this high-demand field.

This Postgraduate Certificate in Arterial Hypertension and Venous Thromboembolic Disease Related to Oncologic Therapies, offers you the characteristics of a course of high scientific, teaching and technological level. These are some of its most notable features:

- Latest technology in online teaching software.
- Highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand.
- Practical cases presented by practising experts.
- State-of-the-art interactive video systems.
- Teaching supported by telepractice.
- Continuous updating and recycling systems.
- Self-regulating learning: full compatibility with other occupations.
- Practical exercises for self-evaluation and learning verification.
- Support groups and educational synergies: questions to the expert, debate and knowledge forums.
- Communication with the teacher and individual reflection work.
- Content that is accessible from any fixed or portable device with an Internet connection.
- Banks of complementary documentation permanently available, even after the course.



*Learn about the latest advances in the specialty to be able to perform a quality medical practice".*

“

*This course may be the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in Arterial Hypertension and Venous Thromboembolic Disease Related to Oncologic Therapies, you will obtain a course diploma from TECH -Technological University"*

Our teaching staff is composed of professionals belonging to the field of Oncologic Cardiology. In this way, we ensure that we provide you with the training update we are aiming for. A multidisciplinary team of doctors trained and experienced in different environments, who will develop the theoretical knowledge in an efficient way, but, above all, will put at the service of the Course the practical knowledge derived from their own experience: one of the differential qualities of this Course.

This mastery of the subject is complemented by the effectiveness of the methodological design of this course. Developed by a multidisciplinary team of *e-learning* experts, it integrates the latest advances in educational technology. This way, you will be able to study with a range of comfortable and versatile multimedia tools that will give you the operability you need in your training.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as an eminently practical process. To achieve this remotely, we will use *telepractice*: with the help of an innovative interactive video system, and *learning from an expert* you will be able to acquire the knowledge as if you were facing the scenario you are learning at that moment. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

*It includes clinical cases that bring the development of the program as close as possible to the reality of medical care.*

*You will have professionals in the sector to guide you throughout the training process.*



# 02 Objectives

This training aims to train highly qualified professionals for work experience. An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is focused on helping medical professionals reach a much higher level of expertise and control. A goal that, in only 2 months, you will be able to achieve, with a high intensity and precision course.





“

*Develop your skills and abilities in Oncologic Cardiology with this highly scientifically rigorous program"*



## General Objectives

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- ♦ Update Cardiologists, Oncologists, and Hematologists's knowledge in the field of Cardio-Oncology.
- ♦ Promote work strategies based on a comprehensive approach to the patient as a standard model for achieving excellent care.
- ♦ Encourage the acquisition of technical skills and abilities, through a powerful audio-visual system, and the possibility of development through online simulation workshops and/or specific training.
- ♦ Encourage professional stimulus through continuing education and research.
- ♦ Recognize the clinical relevance of hypertension in oncology patients.
- ♦ Analyze the relationship between antiangiogenic drugs and arterial hypertension and its mechanisms.
- ♦ Deepen our knowledge of the diagnosis of arterial hypertension associated with the use of antiangiogenic drugs.
- ♦ Define the strategy for monitoring arterial hypertension during oncologic treatment.
- ♦ Know the treatment of arterial hypertension related to oncologic treatment.
- ♦ Describe prevention measures for cancer-related venous thromboembolic disease in different clinical scenarios.
- ♦ Analyze the relationship and clinical significance of venous thromboembolic





disease with the use of central venous catheters.

- ♦ Learn the forms of clinical presentation, diagnostic, and monitoring methods, as well as the treatment of venous thromboembolic disease with the use of central venous catheters.
- ♦ Know the ways to prevent venous thromboembolic disease with the use of central venous catheters.
- ♦ Identify the forms of presentation and deepen the knowledge of the diagnosis of deep vein thrombosis and cancer-associated pulmonary thromboembolism.
- ♦ Analyze the different treatment options for cancer-associated thromboembolic disease.

“

*Learn new diagnostic and therapeutic procedures from specialists in the field”*



03

# Course Management

The program includes in its teaching staff reference specialists in Oncologic Cardiology and other related areas, who bring to this training the experience of their work. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner. A unique opportunity to learn from the best.







“

*Learn about the latest advances in Cardio-Oncology procedures from leading professionals”*

## International Guest Director

Dr. Arjun Ghosh is recognized in the healthcare field for his many efforts to improve the quality of care at the University College London Hospital (UCLH) and Barts Heart Center. Both institutions have become international references in Cardiology, an area in which this doctor is considered a true eminence.

From his position as Head of the Clinical Service at UCLH, the expert has devoted great efforts to the care of patients with cancer and to reduce the cardiac side effects that may result from aggressive treatments such as chemotherapy, radiotherapy and surgery. Thanks to his extensive experience in this field, he is a consultant specialist in the Long-Term Follow-Up Unit, created to monitor the evolution of people who have survived tumors.

Dr. Ghosh's research has been at the forefront of clinical innovation throughout his career. His PhD, for example, was defended at the Imperial College of London and subsequently presented to the British Parliament. This merit is only plausible for studies that make unquestionable contributions to society and science. The thesis has also received numerous national and international awards. It has also been endorsed by presentations at various congresses around the world.

The famous cardiologist is also a specialist in advanced Diagnostic Imaging techniques, using state-of-the-art tools: Magnetic Resonance Imaging and Echocardiography. He also has a broad academic vocation that led him to complete a Master's degree in Medical Education, obtaining accreditations from the Royal College of Physicians of the United Kingdom and University College London.

Dr. Ghosh is also the Director of the Foundation Program at St. Bartholomew's Hospital and holds various positions in local and international societies, such as the American College of Cardiology.



## Dr. Arjun Ghosh

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- Specialist in Cardio-Oncology and Advanced Cardiac Imaging
- Head of Clinical Service University College London Hospital (UCLH)
- Consultant Cardiologist at the Barts Heart Center
- Director of the St Bartholomew's Hospital Foundation Program
- Doctorate in Cardiology at Imperial College London
- Master's Degree in Medical Education from the Royal College of Physicians of the United Kingdom and University College London
- Member of:
  - American College of Cardiology
  - British Cardiovascular Society
  - Royal Society of Medicine
  - International Society of Cardio-Oncology

“

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

## Management



### Dr. Macía Palafox, Ester

- Clinical Manager of the Cardio-Oncology Unit of the Fundación Jiménez Díaz University Hospital in Madrid.
- Degree in Medicine from the Complutense University Madrid.
- Cardiology Specialist at La Paz University Hospital in Madrid..
- TECH Master's Degree in Clinical Arrhythmology (Complutense University of Madrid).
- Fellowship in Investigative Arrhythmology (Columbia University, New York).
- Member of the Spanish Society of Cardiology. Cardio-Oncology Work Group.

## Co-Director



### Dr. García-Foncillas, Jesús

- Director of the Chair of Molecular Individualized Medicine of the Autonomous University of Madrid (UAM-Merck).
- Director of the Oncology Institute "OncoHealth".
- Director of the Oncology Department of the University Hospital "Fundación Jiménez Díaz".
- Director of the Translational Oncology Division of the Health Research Institute FJD-UAM.
- Professor of Oncology, Autonomous University of Madrid.





### Dr. Ibáñez Cabeza, Borja

- Head of the Fundación Jiménez Díaz Cardiology Research Unit.
- Director of the Clinical Research Department of the Carlos III National Center for Cardiovascular Research (CNIC).

## Coordinators

### Dr. Fernández, José

- ♦ Cardiologist. Jiménez Díaz Foundation Hospital

### Dr. Llamas Sillero, Pilar

- ♦ Hematologist. Jiménez Díaz Foundation Hospital

## Professors

### Dr. Alonso Martín, Joaquín Jesús

- ♦ Head of the Cardiology Department at Getafe University Hospital, Madrid

### Dr. Serrano Antolín, José María

- ♦ Cardiology Department at Fuenlabrada University Hospital, Madrid

### Dr. Velasco Rodríguez, Diego

- ♦ Hematology Department, Jiménez Díaz Foundation University Hospital, Quironsalud, Madrid

### Dr. Cornago Navascues, Javier

- ♦ Hematology Department, Jiménez Díaz Foundation University Hospital, Quironsalud, Madrid

### Dr. Vidal Laso, Rosa

- ♦ Hematology Department, Jiménez Díaz Foundation University Hospital, Quironsalud, Madrid

### Dr. Jiménez Barral, Elena

- ♦ Hematology Department, Jiménez Díaz Foundation University Hospital, Quironsalud, Madrid

### Dr. Martínez Díez, Yolanda

- ♦ Hematology Department, Jiménez Díaz Foundation University Hospital, Quironsalud, Madrid

### Dr. García Torres, Araceli

- ♦ Neurology Department, Jiménez Díaz Foundation University Hospital, Quironsalud, Madrid

### Dr. Hernández González, Ignacio

- ♦ Cardiology Department, Jiménez Díaz Foundation University Hospital, Quironsalud, Madrid.





# 04

## Structure and Content

The structure of the contents has been designed by a team of professionals from the best hospitals and universities in Spain, aware of the relevance of current training to intervene in the diagnosis and treatment of cardiological problems in oncology patients through the use of Oncological Cardiology, and committed to quality teaching through new educational technologies.





A close-up photograph of a hand interacting with a tablet device. The hand is positioned in the lower-left quadrant of the frame, with the index finger touching the screen. The background is a soft-focus white surface, likely a hospital bed or table. The image is partially obscured by a large blue diagonal graphic element that runs from the top-right towards the bottom-left.

“

*Train with renowned professionals, who will provide you with their knowledge and experience in Cardio-Oncology”*

### Module 1. Arterial Hypertension as a Result of Oncologic Treatments

- 1.1. Clinical Relevance of Hypertension in Oncology Patients.
- 1.2. Arterial Hypertension Associated with Antiangiogenic Drugs.
  - 1.2.1. Incidence.
  - 1.2.2. Pathophysiology.
  - 1.2.3. Diagnosis.
- 1.3. Other Treatments Associated with the Development of Arterial Hypertension.
- 1.4. Treatment of Arterial Hypertension Related to Oncologic Treatment.
- 1.5. Monitoring Strategy.

### Module 2. Venous Thromboembolic Disease and Other Vascular Complications in the Oncology Patient

- 2.1. Venous Thromboembolic Disease in the Oncologic Patient: Clinical Significance.
  - 2.1.1. Incidence.
  - 2.1.2. Pathophysiology.
  - 2.1.3. Risk Factors.
- 2.2. Antineoplastic Treatments Associated with Increased Risk of Thromboembolic Disease.
  - 2.2.1. Chemotherapy and Antiangiogenic Drugs.
  - 2.2.2. Hormone Therapy.
- 2.3. Prevention of Cancer-Related Venous Thromboembolic Disease.
  - 2.3.1. Prevention Strategy in Outpatients with Active Oncology Treatment. Thrombotic Risk Scales.
  - 2.3.2. Prevention Strategy in Hospitalized Patients.
  - 2.3.3. Perisurgery Prevention Strategy.
- 2.4. Venous Thromboembolic Disease Related to the Use of Central Venous Catheters.
  - 2.4.1. Incidence.
  - 2.4.2. Clinical Presentation.
  - 2.4.3. Diagnostic Methods.
  - 2.4.4. Treatment and Monitoring.
  - 2.4.5. Prevention.





- 2.5. Forms of Presentation and Diagnosis of Cancer-Associated Thromboembolic Disease.
  - 2.5.1. Deep Vein Thrombosis.
  - 2.5.2. Pulmonary Embolism.
- 2.6. Treatment of Cancer-Associated Thromboembolic Disease.
  - 2.6.1. Initial Treatment.
  - 2.6.2. Extended Treatment.
- 2.7. Management of Thromboembolic Disease in Special Situations.
  - 2.7.1. Brain Tumors.
  - 2.7.2. Obesity
  - 2.7.3. Renal Insufficiency.
  - 2.7.4. Thrombopenia.
- 2.8. Primary Prevention of Cardiovascular Disease in Cancer Patients.
  - 2.8.1. Incidence and Risk Factors.
  - 2.8.2. Implicated Drugs.
  - 2.8.3. Clinical Diagnosis and Treatment.
- 2.9. Cerebrovascular Disease.
  - 2.9.1. Incidence and Risk Factors.
  - 2.9.2. Implicated Treatments.
  - 2.9.3. Clinical Diagnosis and Treatment.
- 2.10. Pulmonary Hypertension.
  - 2.10.1. Implicated Drugs. Pathophysiology.
  - 2.10.2. Clinical Diagnosis.
  - 2.10.3. Treatment and Monitoring.

“ *A unique, key, and decisive  
Training experience to boost your  
professional development* ”



05

# Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: *Re-learning*.

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





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

## At TECH we use the Case Method

In a given situation, what would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

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



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

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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 grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Re-Learning Methodology

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

Our University is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.



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



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

With this methodology we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

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

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



In this program you will have access to the best educational material, prepared with you in mind:



#### Study Material

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



#### Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### Interactive Summaries

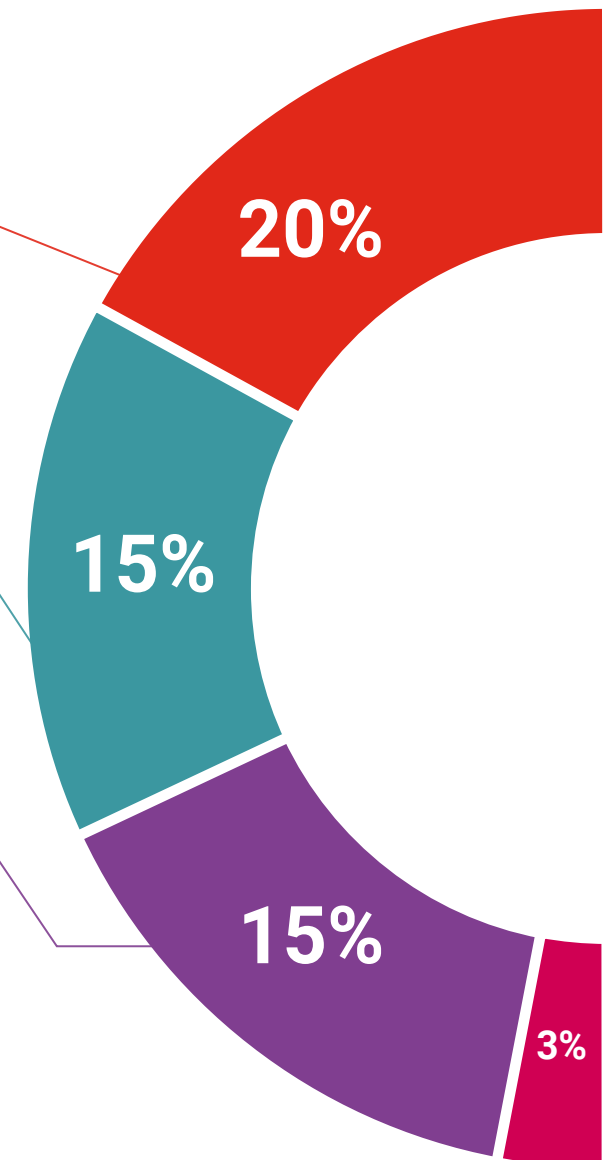
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

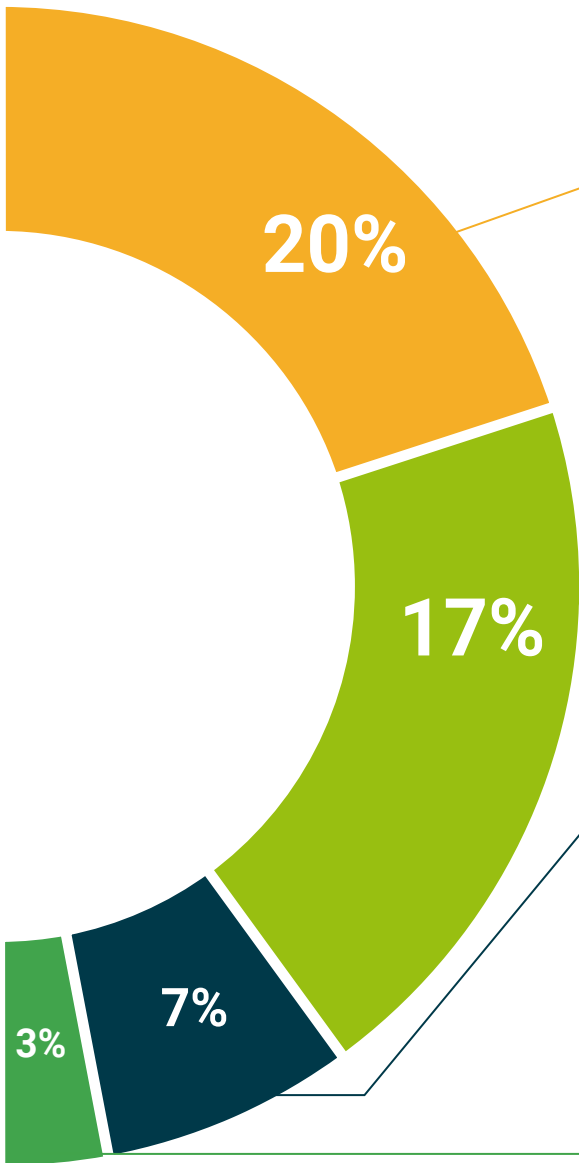
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



#### Additional Reading

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





### Postgraduate Diploma-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the Postgraduate Diploma will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



### Testing & Re-testing

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.



### Classes

There is scientific evidence suggesting that observing third-party Postgraduate Diplomas can be useful.

Learning from an Postgraduate Diploma strengthens knowledge and memory, and generates confidence in our future difficult decisions.



### Quick Action Guides

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.





# 06 Certificate

The Postgraduate Certificate in Arterial Hypertension and Venous Thromboembolic Disease Related to Oncologic Therapies guarantees you, in addition to the most rigorous and up to date training, access to a Course diploma issued by **TECH Technological University**.





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*Include in your training a Postgraduate Certificate in Arterial Hypertension and Venous Thromboembolic Disease Related to Oncologic Therapies: a highly qualified added value for any medical professional"*

This **Postgraduate Certificate in Arterial Hypertension and Venous Thromboembolic Disease Related to Oncologic Therapies** contains the most complete and up to date scientific program on the market.

After the student has passed the evaluations, he/she will receive by mail with acknowledgment of receipt their corresponding **Postgraduate Certificate Diploma** issued by **TECH Technological University**.

The certificate issued by **TECH Technological University** will express the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by job exchanges, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Certificate in Arterial Hypertension and Venous Thromboembolic Disease Related to Oncologic Therapies**

ECTS: **9**

Official Number of Hours: **225**



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

health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development language  
virtual classroom



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Duration: **8 weeks**

Certificate: **TECH Technological University**

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