

# Postgraduate Certificate

## Research and Advances in Vascular Pathology



## Postgraduate Certificate Research and Advances in Vascular Pathology

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-certificate/research-advances-vascular-pathology](http://www.techtute.com/us/medicine/postgraduate-certificate/research-advances-vascular-pathology)

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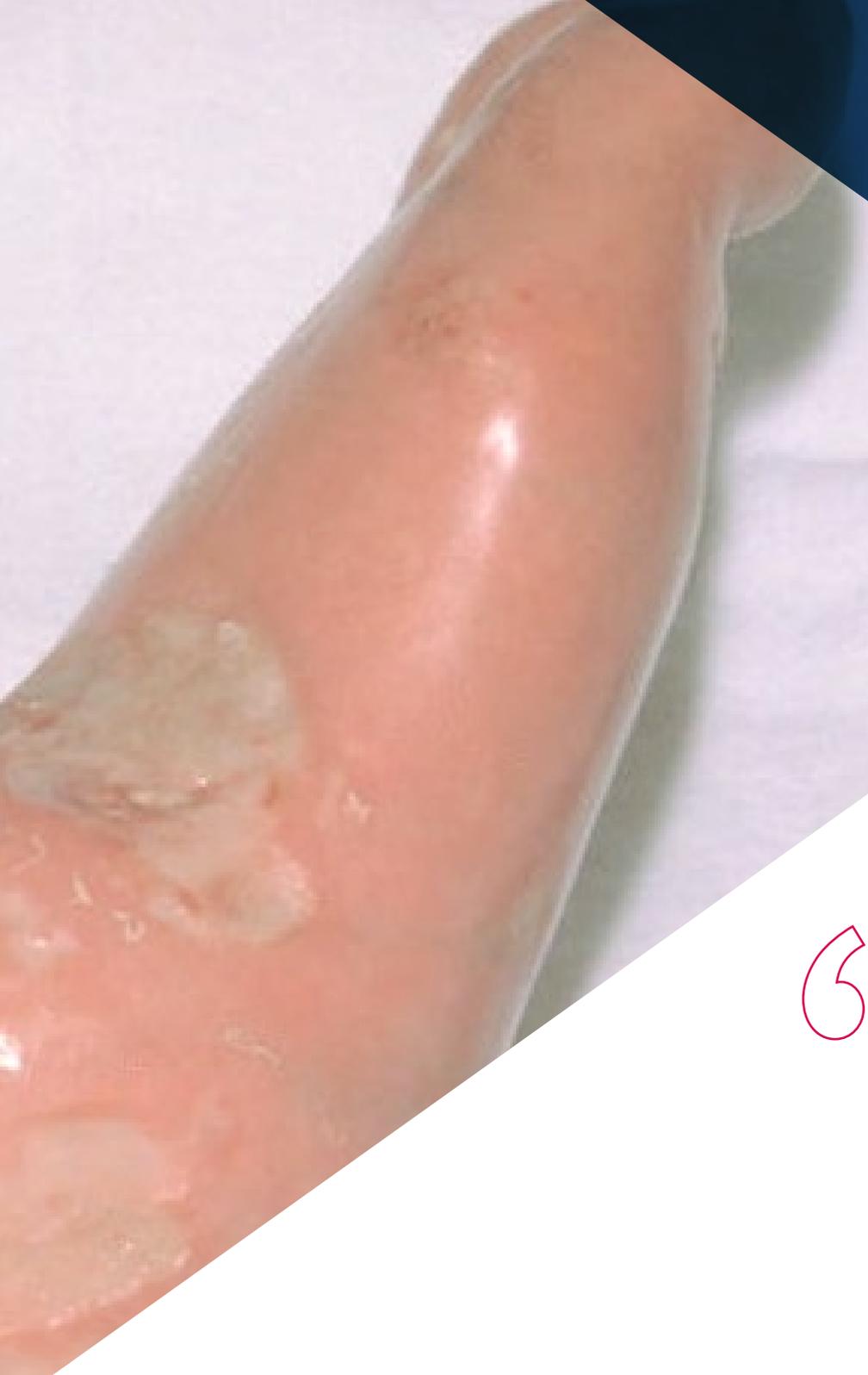
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# 01

# Introduction

Vascular pathology represents a critical area in the field of medicine, as they are the leading cause of death in the world, with approximately 17.9 million deaths annually. In this context, TECH has designed a program that offers an unique opportunity to delve into the latest advances and innovative approaches in the prevention, diagnosis and treatment of these diseases. With a 100% online approach, it uses the pedagogical methodology of *Relearning*, allowing a personalized and efficient educational experience, taught by recognized professionals in this medical area. In addition, it offers flexibility to organize educational resources, facilitating the reconciliation of work and personal life.





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*With this Postgraduate Certificate you will master the most advanced techniques in the diagnosis and treatment of vascular diseases and you will make a difference in the lives of your patients”*

Cardiovascular diseases, which include pathologies such as atherosclerosis, aortic aneurysms, peripheral arterial disease and deep vein thrombosis, among others, constitute a worldwide public health problem, causing millions of deaths annually. The study and treatment of these diseases is crucial to improve the quality of life of those affected and reduce their mortality.

With the aim of offering professionals in the medical field the latest advances in vascular pathology, TECH has designed the Postgraduate Certificate in Research and Advances in Vascular Pathology. This program allows students to delve into topics such as the design of studies in vascular pathology, advances in diagnostic techniques, research in arterial, venous and lymphatic diseases, innovative therapies, biomarkers and prevention of vascular diseases.

In addition, future trends in the field, such as nanotechnology and stem cell therapy, which promise to revolutionize the diagnosis and treatment of vascular diseases, will be discussed. All this, in 150 hours of intensive study that, through a 100% online format, allows students to access the contents from anywhere and at any time.

This program makes use of the Relearning pedagogical methodology, which promotes personalized and efficient learning, adapting to the needs and pace of each student. Flexibility in organizing educational resources facilitates the reconciliation of students' work and personal lives, allowing them to make the most of the time dedicated to their studies.

This **Postgraduate Certificate in Research and Advances in Vascular Pathology** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ Practical cases presented by experts in vascular surgery
- ♦ 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 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



*Balance your work and personal responsibilities with the flexibility offered by this 100% online program”*

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*Delve into innovative therapies and biomarkers, and get ready to apply scientific advances to your medical practice in as little as 6 weeks”*

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 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 during the academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*You will be at the forefront of the field of vascular medicine, addressing future trends such as nanotechnology and stem cell therapy.*

*Immerse yourself in the study of arterial, venous and lymphatic diseases, and enrich your understanding of the complexities of vascular pathology.*



# 02 Objectives

This TECH program aims to train medical professionals in the knowledge and application of the latest advances in the diagnosis, treatment and prevention of vascular diseases. Upon completion of the Postgraduate Certificate, participants will be better prepared to face the challenges and demands of this critical area of medicine, through the adoption of innovative approaches, the implementation of cutting-edge therapies and the promotion of effective prevention strategies that contribute to improve the quality of life of patients and reduce the incidence of these diseases.



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*Take the next step in your professional career and contribute to improving the quality of life of people affected by vascular diseases”*



## General Objectives

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- ♦ Gain in-depth understanding of the pathophysiology of vascular diseases
- ♦ Inquire into the different diagnostic methods
- ♦ Delve into the diagnostic techniques used in vascular pathology, including clinical examination and vascular semiology, imaging methods, laboratory diagnosis and study of vascular function and hemodynamics
- ♦ Explain the different research methods and advances in vascular pathology, especially those focused on vascular pathology, including the development of new drug therapies, genetics and genomics in vascular diseases, and the development of new imaging techniques for the diagnosis and follow-up of vascular diseases





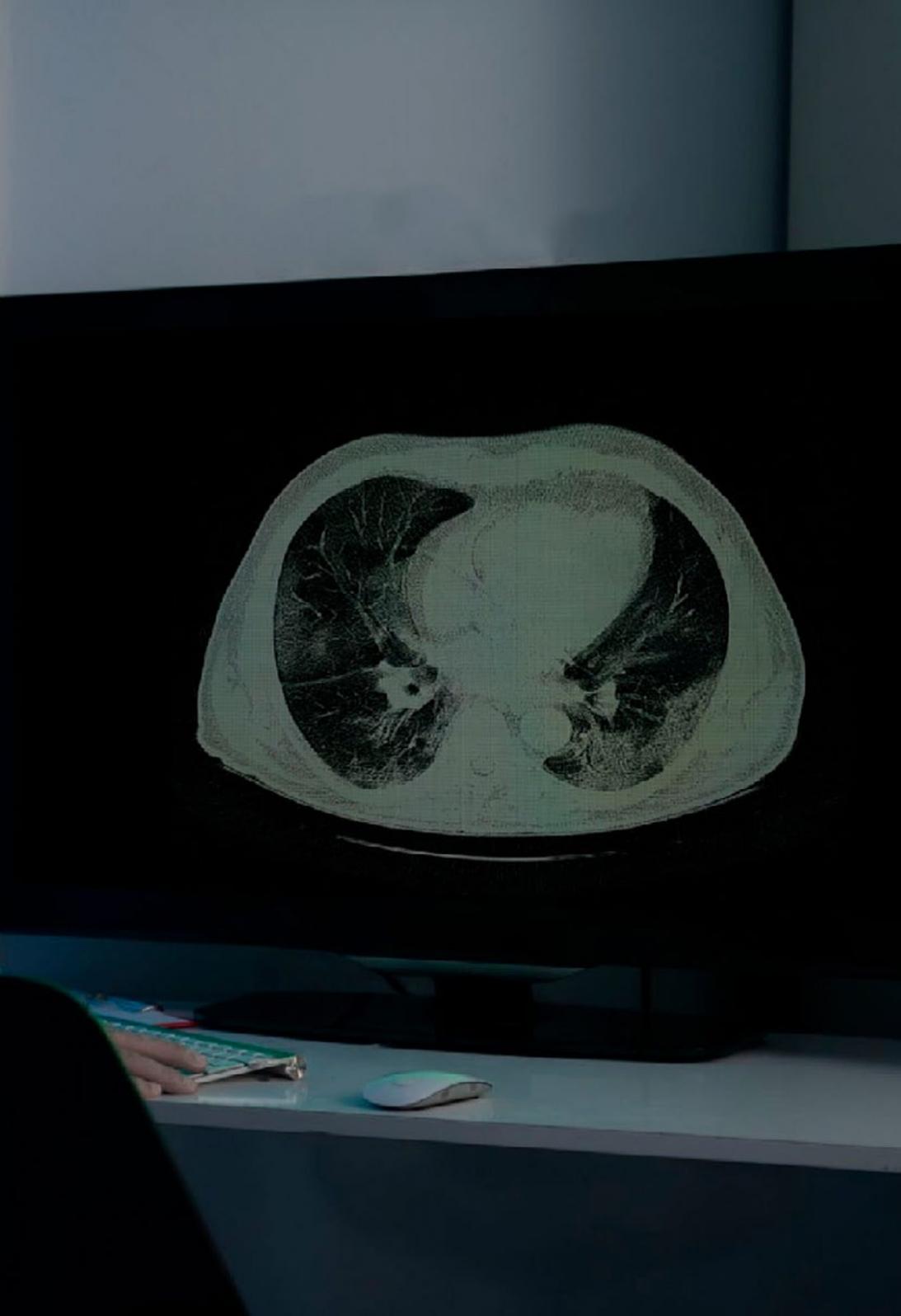
## Specific Objectives

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- Describe clinical and basic research methodologies in vascular pathology
- Delve into the development of new pharmacological therapies for the treatment of vascular diseases
- Delve into the development of new imaging techniques for the diagnosis and monitoring of vascular diseases
- Enhance skills for the critical evaluation of the scientific literature in pathology



*A program designed in detail for you, with complete multimedia material and the possibility of accessing it from any device"*



03

# Course Management

In order to promote high quality learning, TECH has selected for this program a team of highly qualified professionals in the field of vascular medicine. With an extensive background in research and clinical practice, the experts guarantee up-to-date teaching based on the latest scientific evidence. Their commitment to educational excellence and the comprehensive training of students ensures that program participants acquire the skills and knowledge necessary to successfully meet the challenges in the diagnosis, treatment and prevention of vascular diseases.





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*Get up to date on the latest advances in vascular pathology with a multidisciplinary and up-to-date approach, from the hand of a highly experienced teaching team”*

## Address



### Dr. Del Río Sola, María Lourdes

- ◆ Head of the Angiology and vascular surgery at Valladolids Clinical University Hospital
- ◆ Specialist in Angiology and Vascular Surgery
- ◆ European Board in Vascular Surger
- ◆ Permanent Correspondents of the Royal Academy of Medicine and Surgery
- ◆ Professor at Miguel de Cervantes European University
- ◆ Associate Teacher in Health Sciences, University of Valladolid



# 04

# Structure and Content

The syllabus of this program addresses in a dynamic, comprehensive and up to date manner the most relevant aspects of the diagnosis, treatment and prevention of vascular diseases. The content of this course, taught through different pedagogical resources, covers from the design of studies and statistical analysis in vascular pathology, to advances in diagnostic techniques and innovative therapies. This syllabus guarantees a complete and specialized update in the area, allowing students to acquire the necessary skills to face the challenges presented by vascular pathology in today's medical practice.



A close-up photograph of human skin, showing a distinct purple bruise or abrasion. The skin is light-toned, and the bruise is a deep purple color, located in the lower-left quadrant of the image. The background of the slide is split into three geometric sections: a large orange triangle on the left, a dark blue triangle at the top right, and a white triangle at the bottom right.

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*Enroll now and master the necessary tools to design and analyze clinical and observational studies in vascular pathology, improving your research skills”*

## Module 1. Research and Advances in Vascular Pathology

- 1.1. Vascular Pathology Studies design
  - 1.1.1. Vascular Pathology Clinical Trials Design
  - 1.1.2. Vascular Pathology Cohort Studies
  - 1.1.3. Vascular Pathology Cohort Studies
- 1.2. Statistical Analysis of Data in Vascular Pathology
  - 1.2.1. Multivariate analysis methods in vascular pathology
  - 1.2.2. Vascular Pathology Survival Analysis
  - 1.2.3. Vascular Pathology Survival Analysis
- 1.3. Advances in Diagnostic Techniques in Vascular Pathology
  - 1.3.1. Vascular Ultrasound
  - 1.3.2. Computed Tomography Angiography (CTA)
  - 1.3.3. Vascular Magnetic Resonance Imaging (MRI)
- 1.4. Research in Arterial Diseases
  - 1.4.1. Atherosclerosis and Coronary Artery Disease
  - 1.4.2. Research on aortic aneurysms
  - 1.4.3. Research in peripheral arterial disease and intermittent claudication
- 1.5. Research in Venous Diseases
  - 1.5.1. Deep Vein Thrombosis (DVT)
  - 1.5.2. Chronic Venous Insufficiency (IVC)
  - 1.5.3. Post-thrombotic syndrome
- 1.6. Research in Lymphatic Diseases
  - 1.6.1. Lymphedema
  - 1.6.2. Congenital Lymphatic Diseases
  - 1.6.3. Lymphangioma
- 1.7. Innovative Therapies in Vascular Pathology
  - 1.7.1. Cell therapy for vascular regeneration
  - 1.7.2. Gene therapy to treat arterial disease
  - 1.7.3. Growth factor therapy for vascular tissue regeneration
- 1.8. Biomarkers in Vascular Pathology
  - 1.8.1. C-reactive protein (CRP)
  - 1.8.2. B-type natriuretic peptide (BNP)
  - 1.8.3. Metalloproteases
- 1.9. Prevention of vascular diseases
  - 1.9.1. Control of cardiovascular risk factors
  - 1.9.2. Physical Activity and Regular Exercise
  - 1.9.3. Healthy diet and body weight control
- 1.10. Future trends in Vascular Pathology
  - 1.10.1. Nanotechnology for the diagnosis and treatment of vascular diseases
  - 1.10.2. Stem Cell Therapy for Vascular Regeneration
  - 1.10.3. Advances in gene therapy for the treatment of vascular diseases



*Take advantage of the Relearning methodology to update yourself in a personalized and efficient way, adapting to your needs and study pace”*



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. 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.

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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.





#### 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 Certificate in Research and Advances in Vascular Pathology guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Research and Advances in Vascular Pathology** contains the most complete and up-to-date scientific on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

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

Title: **Postgraduate Certificate in Research and Advances in Vascular Pathology**

Official N° of Hours: **150 h.**



\*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.

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

**tech** technological  
university

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- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

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