

# Postgraduate Certificate

## E-Health Devices: Telemedicine and Medical Devices



## Postgraduate Certificate E-Health Devices: Telemedicine and Medical Devices

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

Website: [www.techtute.com/us/medicine/postgraduate-certificate/e-health-devices-telemedicine-medical-devices](http://www.techtute.com/us/medicine/postgraduate-certificate/e-health-devices-telemedicine-medical-devices)

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# 01

# Introduction

Within the area of medicine, technologies have been implemented that facilitate diagnostic and treatment procedures, since they have specific characteristics that facilitate the work required by these two aspects. For this reason, this academic program has been developed, which is made up of a set of topics directly related to Medical Devices and the use of Telemedicine as an effective tool to monitor patients. In addition, it seeks to provide a broad update in this area, with the objective of enabling students to enhance their skills and improve their professional expectations. All this, from a 100% online methodology that will allow its completion from anywhere.





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*TECH guarantees that your professional career will take a giant leap forward in the Medical Devices field by the time you complete this Postgraduate Certificate”*



The advance of technology in medicine has allowed the development of innovative devices and systems that seek to improve medical care by offering effective treatments to improve the health of each patient. Telemedicine is one of those tools that have gained great relevance in recent years, since it has demonstrated its functionality in this field. Likewise, medical equipment has been implemented in a large percentage, so that professionals specialized in its benefits are highly demanded by the market.

In that sense, this Postgraduate Certificate in E-Health Devices: Telemedicine and Medical Devices provides a unique opportunity for students to acquire specialized knowledge in the use of healthcare technologies. Participants will learn about the objectives, benefits and limitations of Telemedicine, as well as the components of a Telemedicine system and information and communication technologies (ICT) in healthcare. In addition, during the development of the program, we will explore the different clinical applications of Telemedicine, including remote patient monitoring. Also, it will delve into telediagnosis and teleoncology.

You will achieve all this thanks to the innovative Relearning methodology, which is designed to be taught 100% online, a benefit that will allow students to study from the comfort of their homes and at any time, since they will have access to multimedia resources 24 hours a day. In addition, you will have an excellent teaching team made up of the best professionals in this field who will share with you the current outlook of this profession.

This **Postgraduate Certificate in E-Health Devices: Telemedicine and Medical Devices** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of case studies presented by experts in E-Health Devices: Telemedicine and Medical Devices
- ♦ 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
- ♦ The availability of access to content from any fixed or portable device with an Internet connection



*Study with the most contemporary contents and get a perfect update on the use of technological devices in Telemedicine"*

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*Slowly and calmly. This is the way you will be able to learn all the contents of this program, which is 100% online"*

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

Its 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 an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

*Expand your knowledge of the most relevant Medical Devices within this study science.*

*Don't wait any longer and be part of the future professionals by studying the best Postgraduate Certificate in the market.*

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name += " ";  
if (settings[0].compareTo("") != 0) {  
    compareTo("")  
};  
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# 02 Objectives

The main purpose of this academic program is to provide the student with the most relevant advanced tools on the latest developments in E-Health Devices. In this way, students will be able to improve their skills and update their knowledge in this field in order to face the current challenges in the industry. For this purpose, TECH has developed a wide variety of didactic resources that will allow the learner to consolidate all the elements in an effective way.







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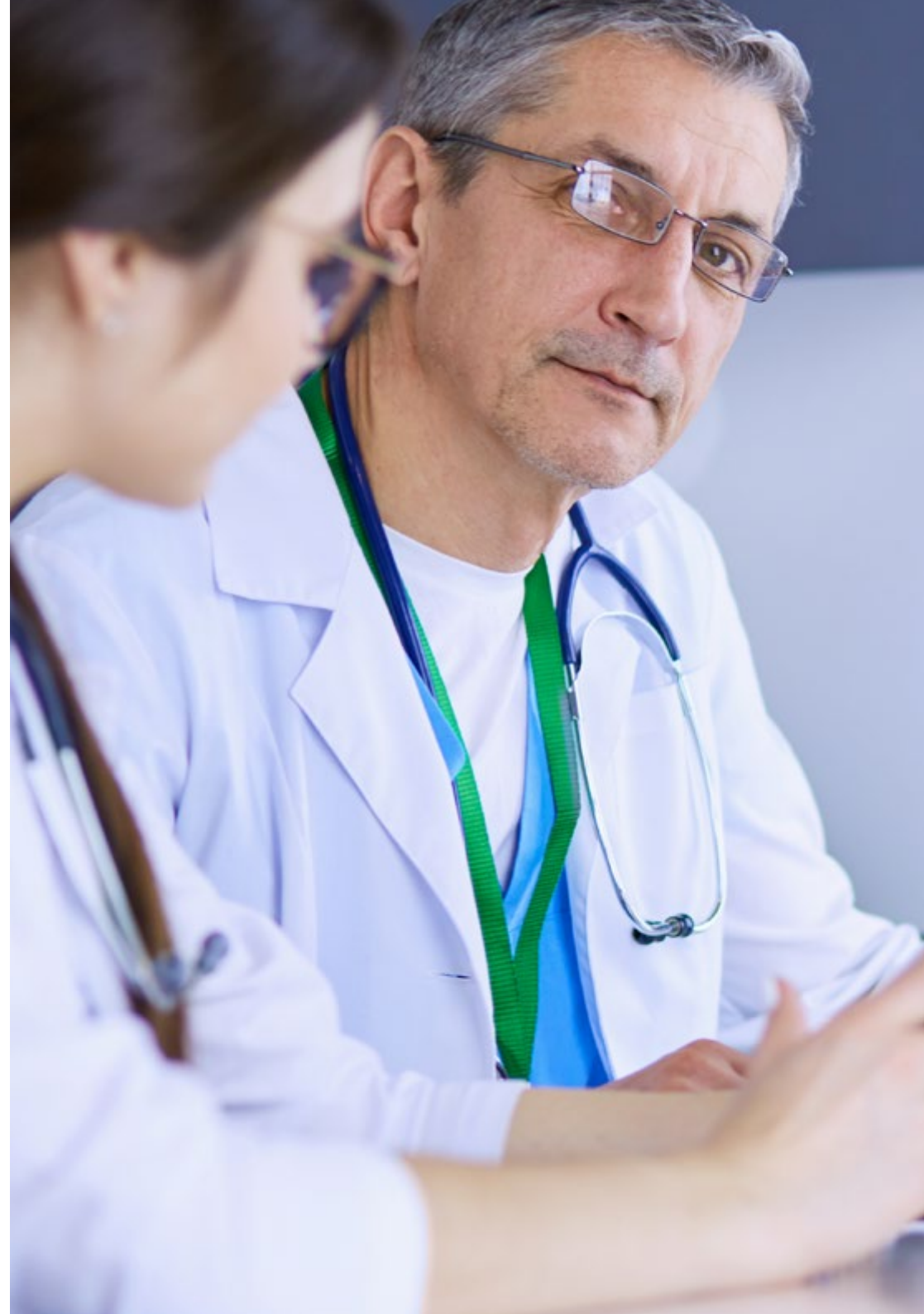
*With the knowledge about the ethical aspects and regulation to use Telemedicine, you will manage to properly implement the medical devices”*



## General Objectives

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- ♦ Provide specialized knowledge of the technologies and methodologies used in the design, development and assessment of telemedicine systems
- ♦ Establish the different types and applications of telemedicine
- ♦ Delve into the most common ethical aspects and regulatory frameworks of telemedicine
- ♦ Develop key concepts of medicine that serve as a vehicle to understand clinical medicine
- ♦ Determine the major diseases affecting the human body classified by apparatus or systems, structuring each module into a clear outline of pathophysiology, diagnosis, and treatment
- ♦ Analyze the use of medical devices





## Specific objectives

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- Analyze the evolution of telemedicine
- Assess the benefits and limitations of telemedicine
- Examine the different types, use and clinical benefits of telemedicine
- Assess the most common ethical issues and regulatory frameworks surrounding telemedicine
- Establish the use of medical devices in healthcare in general and in telemedicine specifically
- Determine the use of the Internet and the medical resources it provides
- Delve into the main trends and future challenges in telemedicine



*You set the goals and TECH maps out the best way to reach them. Don't look any further and become part of the large community of students at this institution"*

03

# Course Management

The teaching team of this program has been carefully selected by TECH. with the objective of guaranteeing an education of excellence and offering a complete training that provides students with a significant advantage in the labor market. Therefore, the best prepared experts in this area will transmit to the students the most important aspects related to the integration of E Health Devices and their personalized assistance within Telemedicine. In addition, students will have the opportunity to improve their professional skills, as they will learn first-hand about the current requirements in this area.







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*This is the only Postgraduate Certificate that will allow you to learn from the best professionals in E-Health Devices"*



## Management



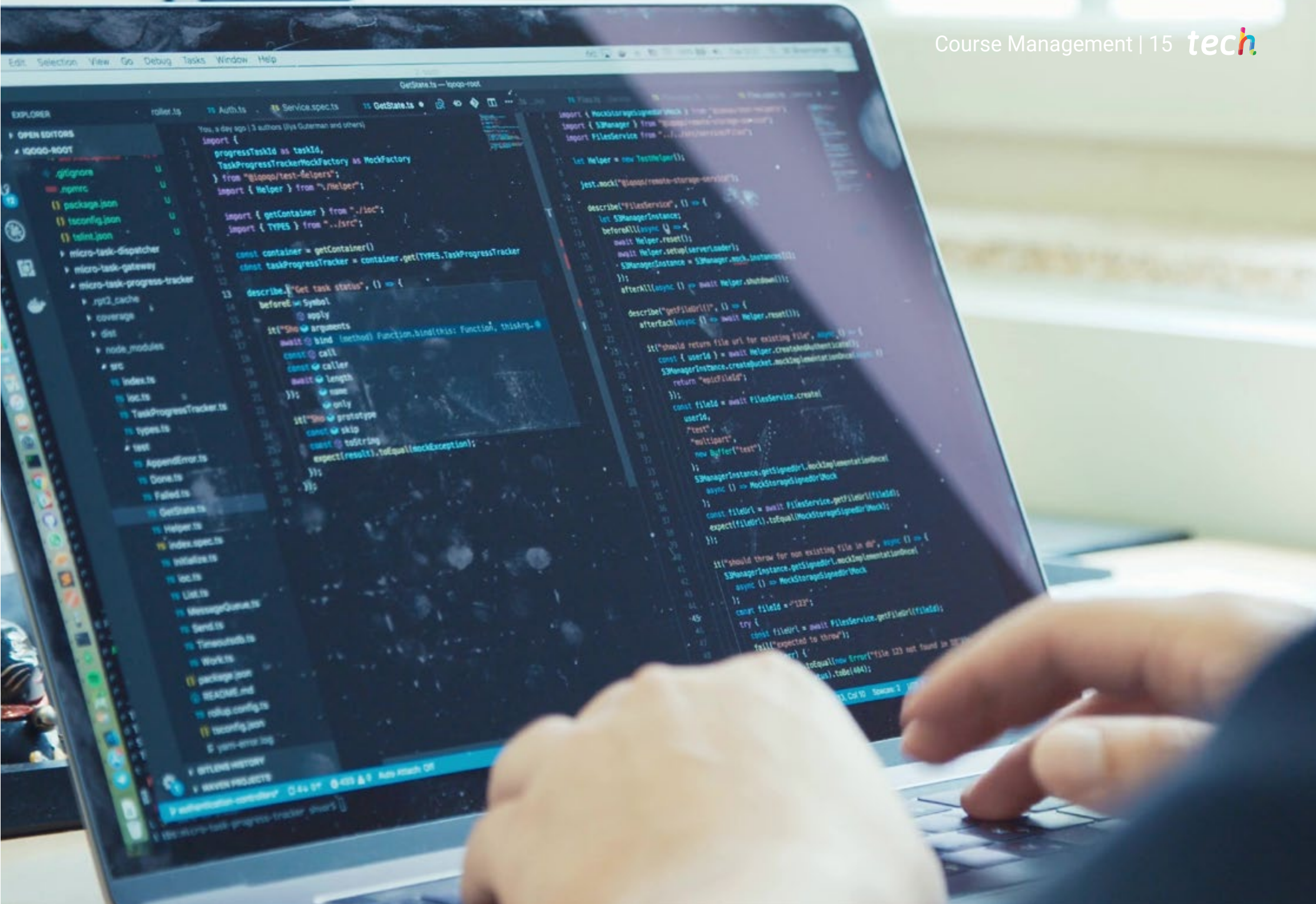
### Ms. Sirera Pérez, Ángela

- ◆ Biomedical Engineer expert in Nuclear Medicine and exoskeleton design
- ◆ Designer of specific parts for 3D printing at Technadi
- ◆ Technician of the Nuclear Medicine area of the Navarra University Clinic
- ◆ Degree in Biomedical Engineering from the University of Navarra
- ◆ MBA and Leadership in Healthcare and Medical Technology Companies

## Professors

### Dr. Somolinos Simón, Francisco Javier

- ◆ Biomedical Engineering Researcher at the Bioengineering and Telemedicine Group of the Polytechnic University of Madrid
- ◆ R&D&I Consultant at Evaluate Innovation
- ◆ Biomedical Engineering Researcher at the Bioengineering and Telemedicine Group of the Polytechnic University of Madrid
- ◆ D. in Biomedical Engineering from the Polytechnic University of Madrid
- ◆ Graduate in Biomedical Engineering from the Polytechnic University of Madrid
- ◆ Master's Degree in Management and Development of Biomedical Technologies from Carlos III University of Madrid



# 04

# Structure and Content

The contents of the syllabus of this Postgraduate Certificate have been created by leading experts in this area. In this way, students will have the opportunity to acquire a specialized understanding of the implementation of E-Health Devices within Telemedicine. This action will help students problem-solving skills through the study of multimedia resources and the analysis of case studies.





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*Get updated on the latest developments offered by ICT for the Telemedicine area and master them in order to implement them at a professional level"*

## Module 1. Telemedicine and Medical, Surgical and Biomechanical Devices

- 1.1. Telemedicine and Telehealth
  - 1.1.1. Telemedicine as a Telehealth Service
  - 1.1.2. Telemedicine
    - 1.1.2.1. Telemedicine Objectives
    - 1.1.2.2. Benefits and Limitations of Telemedicine
  - 1.1.3. Digital Health. Technologies
- 1.2. Telemedicine Systems
  - 1.2.1. Components in Telemedicine Systems
    - 1.2.1.1. Personal
    - 1.2.1.2. Technology
  - 1.2.2. Information and Communication Technologies (ICT) in the Health Sector
    - 1.2.2.1. t-Health
    - 1.2.2.2. m-Health
    - 1.2.2.3. u-Health
    - 1.2.2.4. p-Health
  - 1.2.3. Telemedicine Systems Assessment
- 1.3. Technology Infrastructure in Telemedicine
  - 1.3.1. Public Switched Telephone Network (PSTN)
  - 1.3.2. Satellite Networks
  - 1.3.3. Integrated Services Digital Network (ISDN)
  - 1.3.4. Wireless Technology
    - 1.3.4.1. WAP. Wireless Application Protocol
    - 1.3.4.2. Bluetooth
  - 1.3.5. Microwave Connections
  - 1.3.6. Asynchronous Transfer Mode (ATM)
- 1.4. Types of Telemedicine. Uses in Healthcare
  - 1.4.1. Remote Patient Monitoring
  - 1.4.2. Storage and Shipping Technologies
  - 1.4.3. Interactive Telemedicine







- 1.5. Telemedicine: General Applications
  - 1.5.1. Telecare
  - 1.5.2. Telemonitoring
  - 1.5.3. Teleradiology
  - 1.5.4. Teleeducation
  - 1.5.5. Telemanagement
- 1.6. Telemedicine: Clinical Applications
  - 1.6.1. Teleradiology
  - 1.6.2. Teledermatology
  - 1.6.3. Teleoncology
  - 1.6.4. Telepsychiatry
  - 1.6.5. Home Care (Telehome-care)
- 1.7. Smart and Assistive Technologies
  - 1.7.1. Smart Home Integration
  - 1.7.2. Digital Health to Improve Treatment
  - 1.7.3. Telehealth Clothing Technology. "Smart Clothes"
- 1.8. Ethical and Legal Aspects of Telemedicine
  - 1.8.1. Ethical Foundations
  - 1.8.2. Common Regulatory Frameworks
  - 1.8.4. ISO Standards
- 1.9. Telemedicine and Diagnostic, Surgical and Biomechanical Devices
  - 1.9.1. Diagnostic Devices
  - 1.9.2. Surgical Devices
  - 1.9.2. Biomechanical Devices
- 1.10. Telemedicine and Medical Devices
  - 1.10.1. Medical Devices
    - 1.10.1.1. Mobile Medical Devices
    - 1.10.1.2. Telemedicine Carts
    - 1.10.1.3. Telemedicine Kiosks
    - 1.10.1.4. Digital Cameras
    - 1.10.1.5. Telemedicine Kit
    - 1.10.1.6. Telemedicine Software

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 E-Health Devices: Telemedicine and Medical Devices guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.





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

This program will allow you to obtain your **Postgraduate Certificate in E-Health Devices: Telemedicine and Medical Devices** 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.

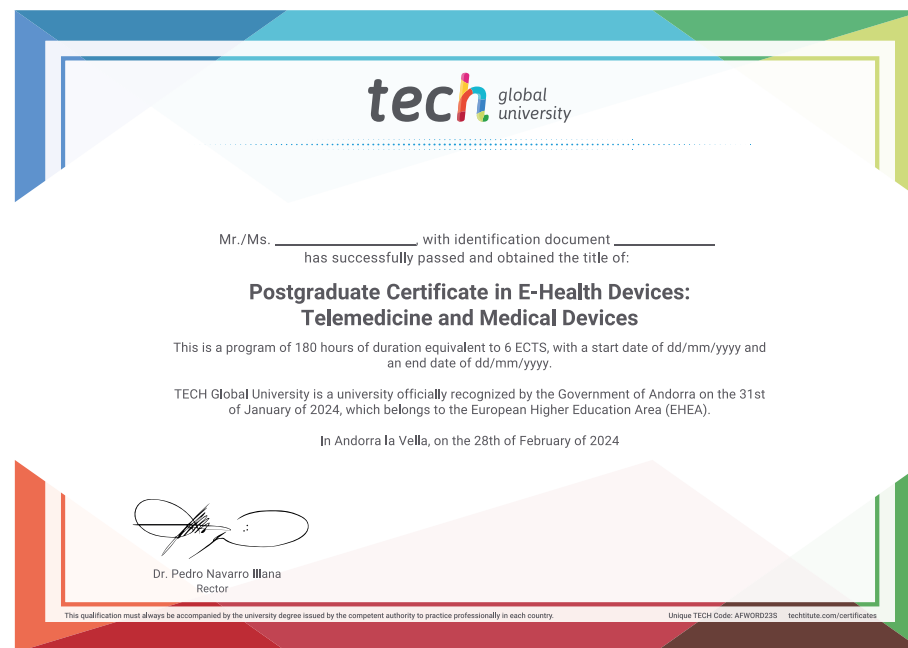
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in E-Health Devices: Telemedicine and Medical Devices**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**





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