

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 Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/in/physiotherapy/postgraduate-certificate/e-health-devices-telemedicine-medical-devices

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01

Introduction

Nowadays, Physiotherapy is looking for an increasingly more effective application of new technologies and communications to improve patient care. In fact, the situation arising from the pandemic has led to an increase in telematic consultations and the use of E-Health devices. This way, TECH develops this degree to respond to a growing need in this area, for which students will delve into Nanotechnology, IoT applications or self-replicators. Always making available to students a completely online and flexible way of study, students will be able to manage academic resources according to their own personal and professional needs.



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*Develop immediate skills from the hand
of TECH for the management of E-Health
devices applicable to Physiotherapy”*

Telemedicine is practically normalized in general, but the many possibilities it offers are not yet fully exploited. This new tool makes it possible to provide health care or to collect and document data. If you make the most of it, you can even analyze communications in a distributed system, monitor patients or predict future outbreaks. That is why TECH has created this Postgraduate Certificate, with which students will explore all the possibilities offered by E-Health devices for Telemedicine.

This program highlights the specific content that can be accessed, with distinguished teachers who show students the great possibilities of communication technologies in Physiotherapy. In fact, TECH teachers are committed to the students, and stand out for their human and professional quality. On the other hand, the syllabus that has been designed for this program stands out for its applications in this field. It is an extensive content specifically aimed at professionals in this area, although it also represents a multidisciplinary growth for the student in the professional field, enriching their position and adding extra value.

This program is mainly focused on physiotherapists, although it is also aimed at health professionals and other specialists. Through the online experience, the student sets their own pace and course load, being able to combine it with their daily work. In addition, TECH has a methodology that allows combining theory and practice in an innovative way, while the content can be downloaded in full from the first day, facilitating the student the when and how, so that they can achieve their professional goals.

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 practical cases 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
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



Do research with the best professionals the application of innovative technologies, such as Nanotechnology”

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Get updated on the possibilities of the Internet of Things (IoT) in patient rehabilitation”

Discover new protocols in Physiotherapy and identify the opportunities it offers you.

Download all the content of the program from the first day and get up to date in this area in a dynamic and effective way.

The program's teaching staff includes professionals from the 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. This will be done with the help of an innovative system of interactive videos made by renowned experts.



02 Objectives

This Postgraduate Certificate aims to update the student on the applications of information technology and communications, applicable in different fields, but mainly focused on health. In Physiotherapy, concepts such as Telemonitoring or Tediagnosis mark a differential factor. This way, it is sought that these aspects are exposed in detail, so that the physiotherapist can get take the most advantage of it. Therefore, TECH gives the professional a series of advanced knowledge that they will be able to develop extensively nowadays.



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The design of this Postgraduate Certificate will allow physiotherapy professionals to be updated through the innovative methodology of TECH”



General Objectives

- ♦ Develop key concepts of medicine that serve as a vehicle to understand clinical medicine
- ♦ Determine how to obtain metrics and tools for healthcare management
- ♦ Examine the ethical and best practice principles governing the different types of research in health sciences
- ♦ Identify the real clinical applications of the various techniques
- ♦ Develop the key concepts of computational science and theory
- ♦ Determine the applications of computation and its implication in bioinformatics
- ♦ Provide the necessary resources to practically apply all the concepts in the modules
- ♦ Develop the fundamental concepts of databases
- ♦ Determine the importance of medical databases
- ♦ Provide specialized knowledge of the technologies and methodologies used in the design, development and assessment of telemedicine systems
- ♦ Determine the different types and applications of telemedicine
- ♦ Delve into the most common ethical aspects and regulatory frameworks of telemedicine
- ♦ Analyze the use of medical devices
- ♦ Collect e-Health success stories and mistakes to avoid





Specific Objectives

- ♦ 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



*Delve into the main trends
and future challenges in
telemedicine in only 150 hours”*

03

Course Management

For this strongly interdisciplinary program, TECH has counted with highly qualified professionals from various fields and long experience. All of them are dedicated to research and its application in daily practice, and through this degree they make it available to any physiotherapist seeking to improve this aspect of their profession. Clinical applications such as Teleradiography, increasingly present in Medicine, are practices that the teaching team of this Postgraduate Certificate in E-Health Devices: Telemedicine and Medical Devices puts in the foreground. In this way, the student has the opportunity to grow professionally by the hand of the best online university in the world.





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Analyze the common regulatory and ethical frameworks for conducting a professional practice of 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 in the Nuclear Medicine area of the University Clinic of Navarra
- ♦ 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 Evalua 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 syllabus of this program is based on the emerging needs of Physiotherapy professionals, seeking to polish their skills in Telemedicine and Medical Devices. This Postgraduate Certificate develops its key aspects, as well as its evolution. Aspects such as interactive Telemedicine or Integral Networks of Integrated Services are topics that TECH faculty have brought to the forefront in this program. All of this is presented in a meticulous manner, breaking down the most important aspects of each topic, with a view to providing the student with the best content and facilitating the most practical issues.



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*Deepen in the use of Internet and
Medical Devices in the field of
Physiotherapy with this syllabus”*

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. Telediagnosics
 - 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. Telehome-care
- 1.7. Smart Technologies and Care
 - 1.7.1. Integrating Smart Homes
 - 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. Biomechanic 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.





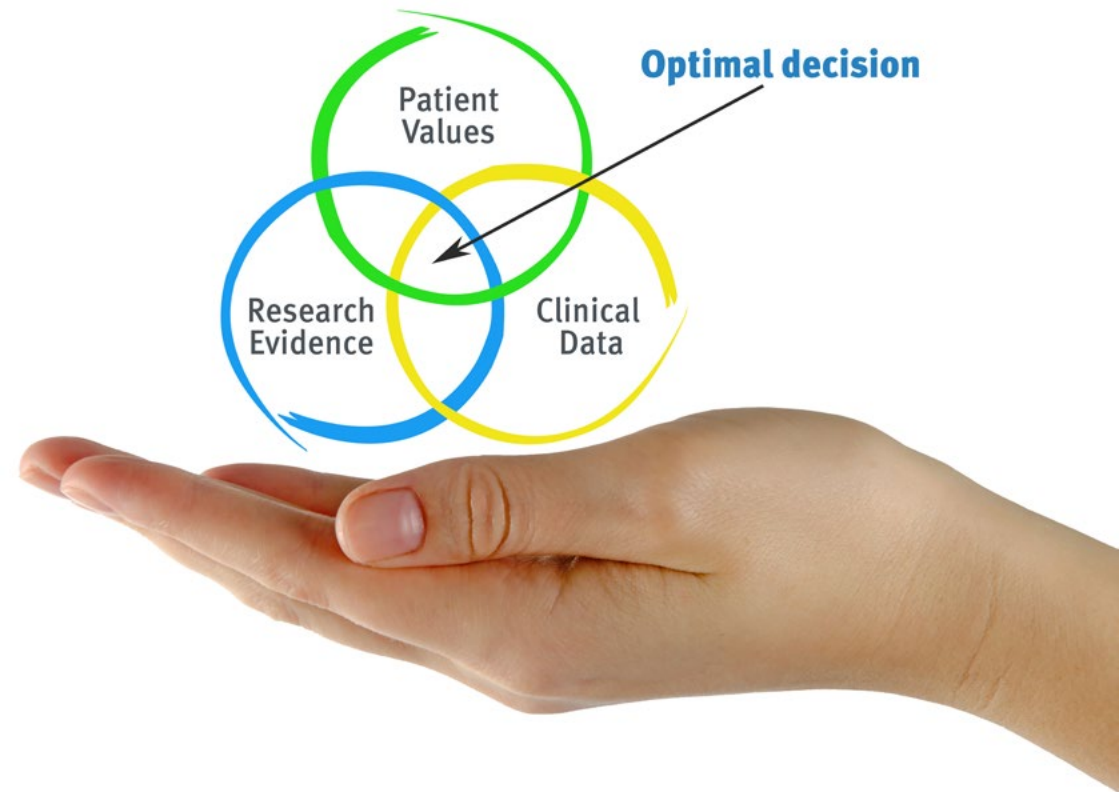
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Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

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. Physiotherapists/kinesiologists 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 of professional physiotherapy 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. Physiotherapists/kinesiologists 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 physiotherapist/kinesiologist 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.

The physiotherapist/kinesiologist 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 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 we trained more than 65,000 physiotherapists/kinesiologists with unprecedented success in all clinical specialties, regardless of the workload. 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 training, developing a critical mindset,
defending arguments, and contrasting opinions: a
direct equation for 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 our 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 really 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.



Physiotherapy Techniques and Procedures on Video

TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current Physiotherapy techniques and procedures. 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 them as many times as you want.



Interactive Summaries

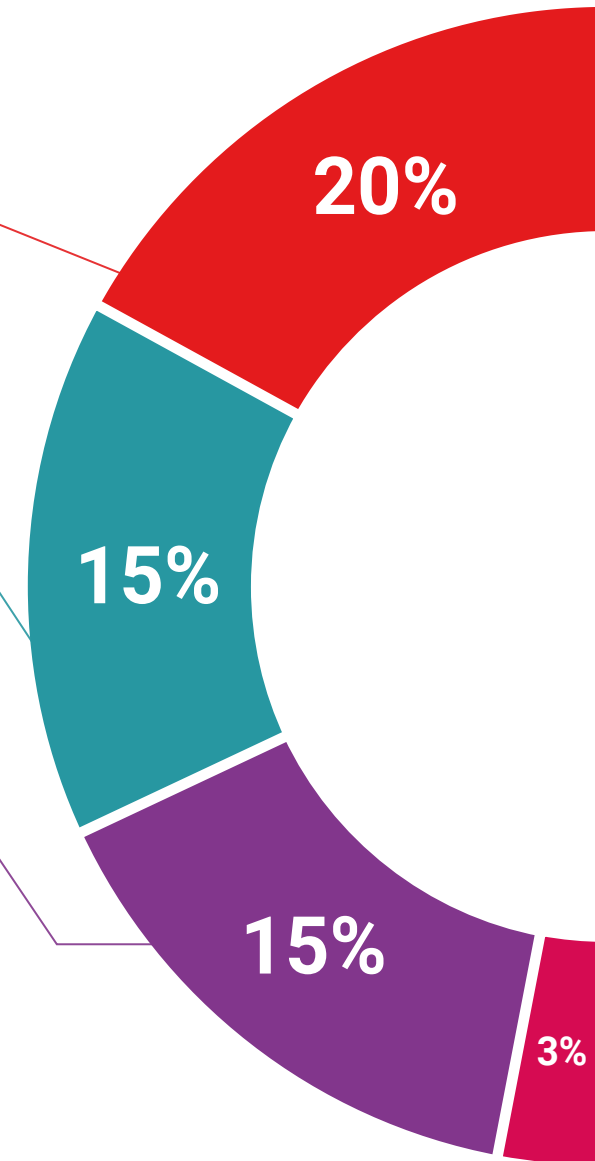
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

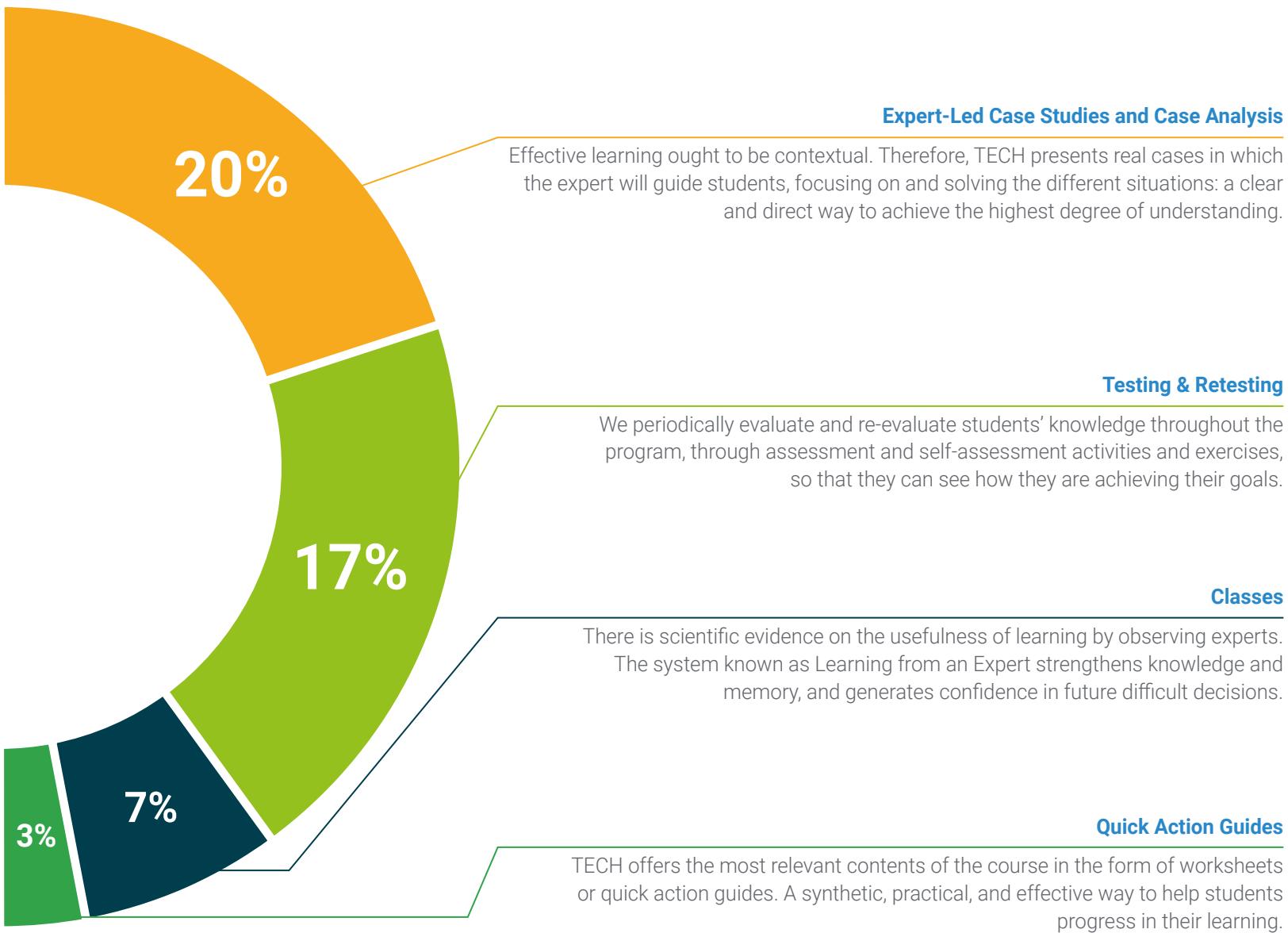
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



Additional Reading

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





06 Certificate

The Postgraduate Certificate in 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 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 E-Health Devices: Telemedicine and Medical Devices** contains the most complete and up-to-date scientific program 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 certificate 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 E-Health Devices: Telemedicine and Medical Devices**

Official N° of Hours: **150 h.**



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



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