Postgraduate Certificate

E-Health Devices: Telemedicine and Medical Devices

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Postgraduate Certificate
E-Health Devices: Telemedicine and Medical Devices

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Technological University**
- Schedule: **at your own pace**
- Exams: **online**

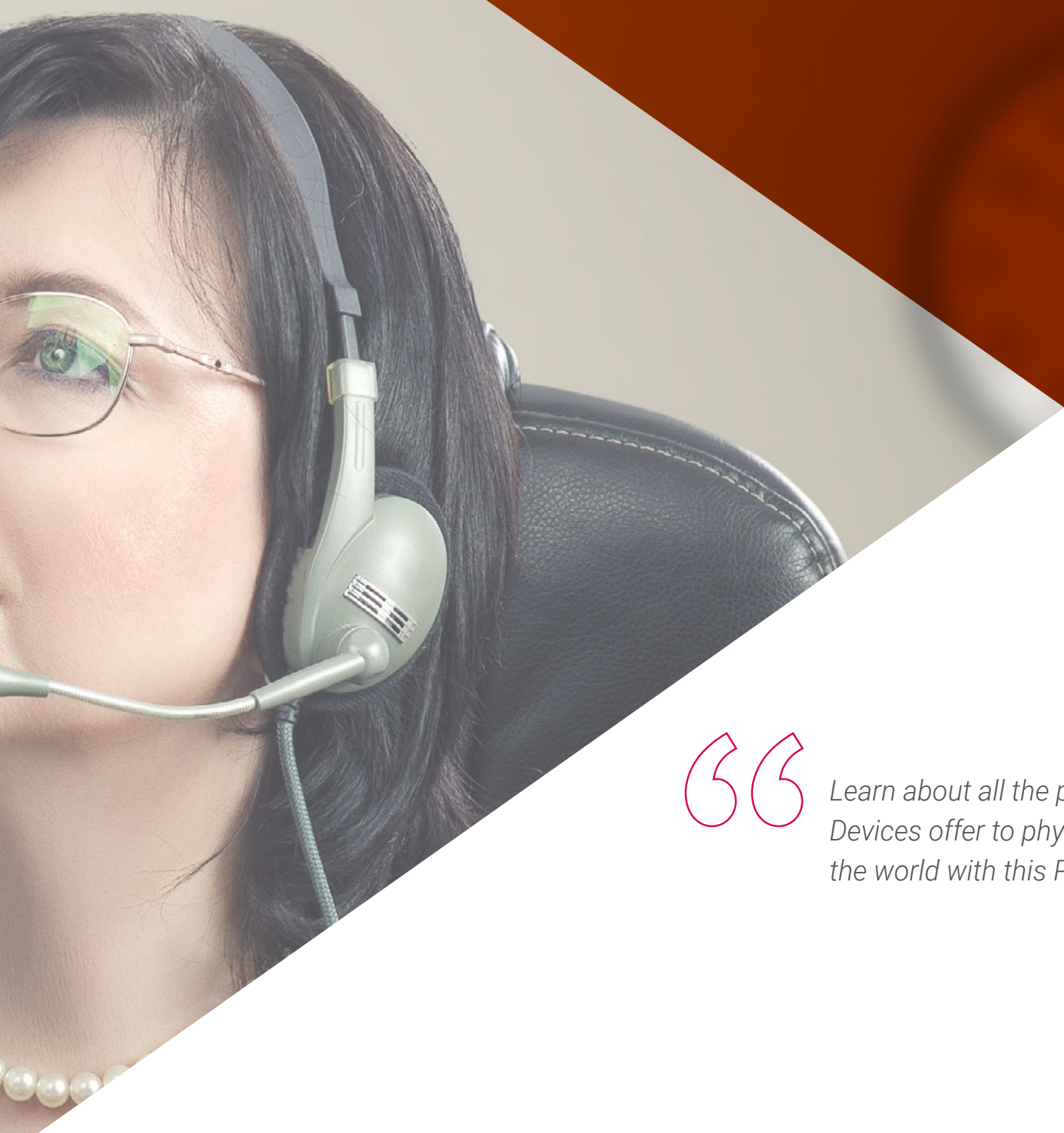
Website: **www.techtitute.com/us/engineering/postgraduate-certificate/e-health-devices-telemedicine-medical-devices**

Index

01

Introduction

The use of information and communication technologies is becoming increasingly widespread in science. From the use of Big Data tools and statistics to new uses of biomedical imaging. One of the innovations that information and communication technologies (ICT) have brought to the area of healthcare is the provision of remote medical services, also known as Telemedicine.This new modality in the healthcare sector is part of E-Health, which encompasses the use of IT tools for healthcare, data collection and documentation, research and a wide range of other areas. Therefore, given this new demand, this program has been developed to provide engineers with all the latest information possible in this discipline and to focus their careers in a sector that requires more specialized professionals.



Learn about all the possibilities that E-Health Devices offer to physicians and patients around the world with this Postgraduate Certificate"

Telemedicine has evolved along with the disciplines it interrelates: Health Sciences and Computer Science. The new evidence in this field clearly shows the possibilities it offers and the limitations to which all the practices involved are subject to date. This Postgraduate Certificate offers a detailed exposition of the uses of ICT and the different modalities of Telemedicine, as well as the devices and models used.

This course is aimed at computer engineers, biomedical engineers, health professionals and any specialist who is interested in being up to date in the latest research and applications of E-Health, especially in the devices, with a clear focus on their fundamentals and the projections that the use of ICT in Health Sciences has.

This is a 100% online program that will offer the best tools for the student to know all the technical details of diagnostic and surgical devices, software and other aspects of E-Health in this area. This program has an important practical focus -although it also offers a solid exposition of the development and fundamentals of this area- which will be developed over six weeks with the support of the most complete and useful virtual tools.

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:

- Development of case studies presented by experts in E-Health Devices and Medical Devices
- The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable 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

Discover the innovations and advances that have been made in the field of E-Health and be part of the future of medicine"

Telemedicine is becoming increasingly relevant in the Health Sciences. It is part of a sector in constant expansion, understanding both the ethical aspects of the use of these technologies and methods and the possibilities they open up in clinical protocols"

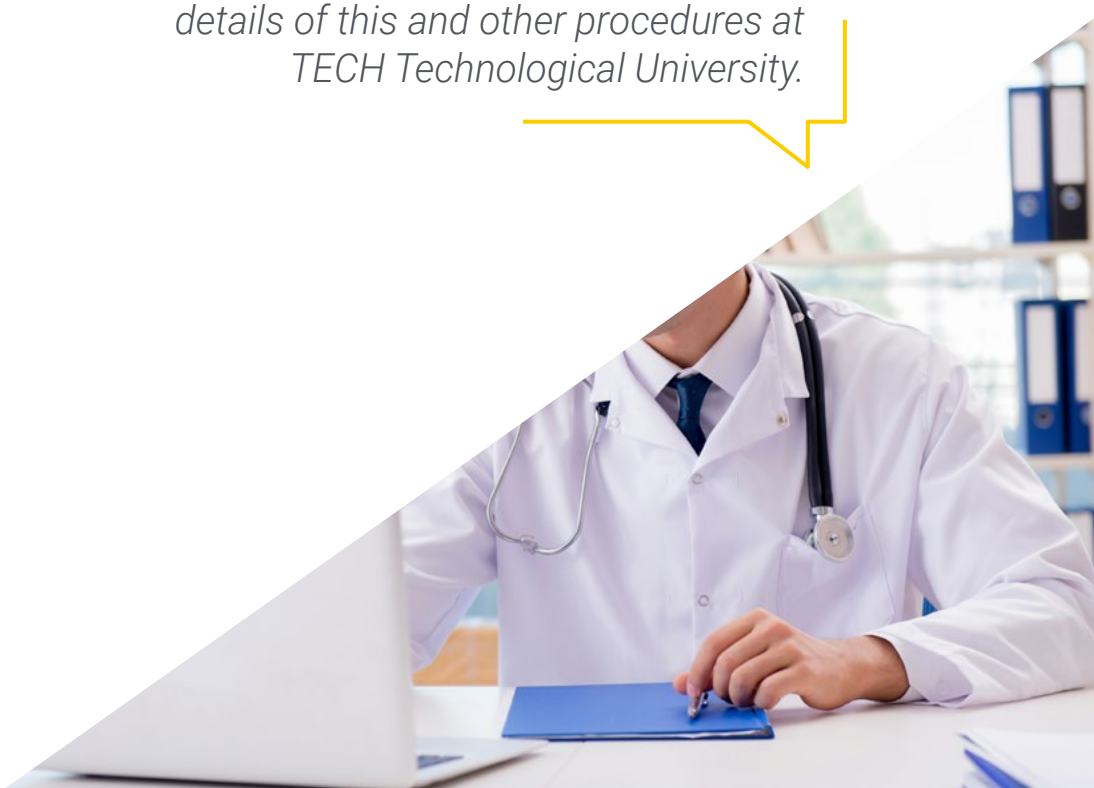
With the Relearning methodology and a large amount of virtual content you will learn in a comprehensive and rigorous way the latest developments in E-Health, medical devices and Telemedicine.

An example of the application of telemedicine is the remote monitoring of cardiac devices. Learn all the technical details of this and other procedures at TECH Technological University.

The program includes, in its teaching staff, professionals from the sector who bring to this program the experience of their work, as well as recognized specialists from prestigious reference societies and universities.

The multimedia content, developed with the latest educational technology, will provide professionals with situated and contextual learning, i.e., a simulated environment that will provide immersive training, designed for training oneself 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 course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts



02

Objectives

This program is designed with very clear technical and informative goals, which include a detailed exposition and explanation of the objects, functions and procedures of telemedicine. The student will learn about the general functions of information and communication technologies at the administrative level, which has very diverse applications in different fields, but will be the basis for recognizing the direct relationship that can be established between ICT and clinical practices. You will study all this in a specialized way in this 100% online program of 180 hours.

Clear objectives and a rigorous syllabus make this Postgraduate Certificate the best option to delve into Telemedicine and E-Health"

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
- Study 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 aspects and regulatory frameworks for the use of 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

TECH can help you achieve your professional and academic goals. Enroll in this Postgraduate Certificate and expand your knowledge"

03

Course Management

The educational and professional experience of the specialists who designed this program is highly diverse, in accordance with the strongly interdisciplinary nature required by E-Health. The teaching staff that built this program works at the forefront of advances in biomechanical engineering, being a great source of information for anyone who wants to be qualified in a completely up-to-date way and in accordance with both the problems and the technical sophistication that telemedicine has had.

With extensive experience in Big Data, Biomedicine and software, the set of specialists who developed this program are best suited to help you delve into this field"

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

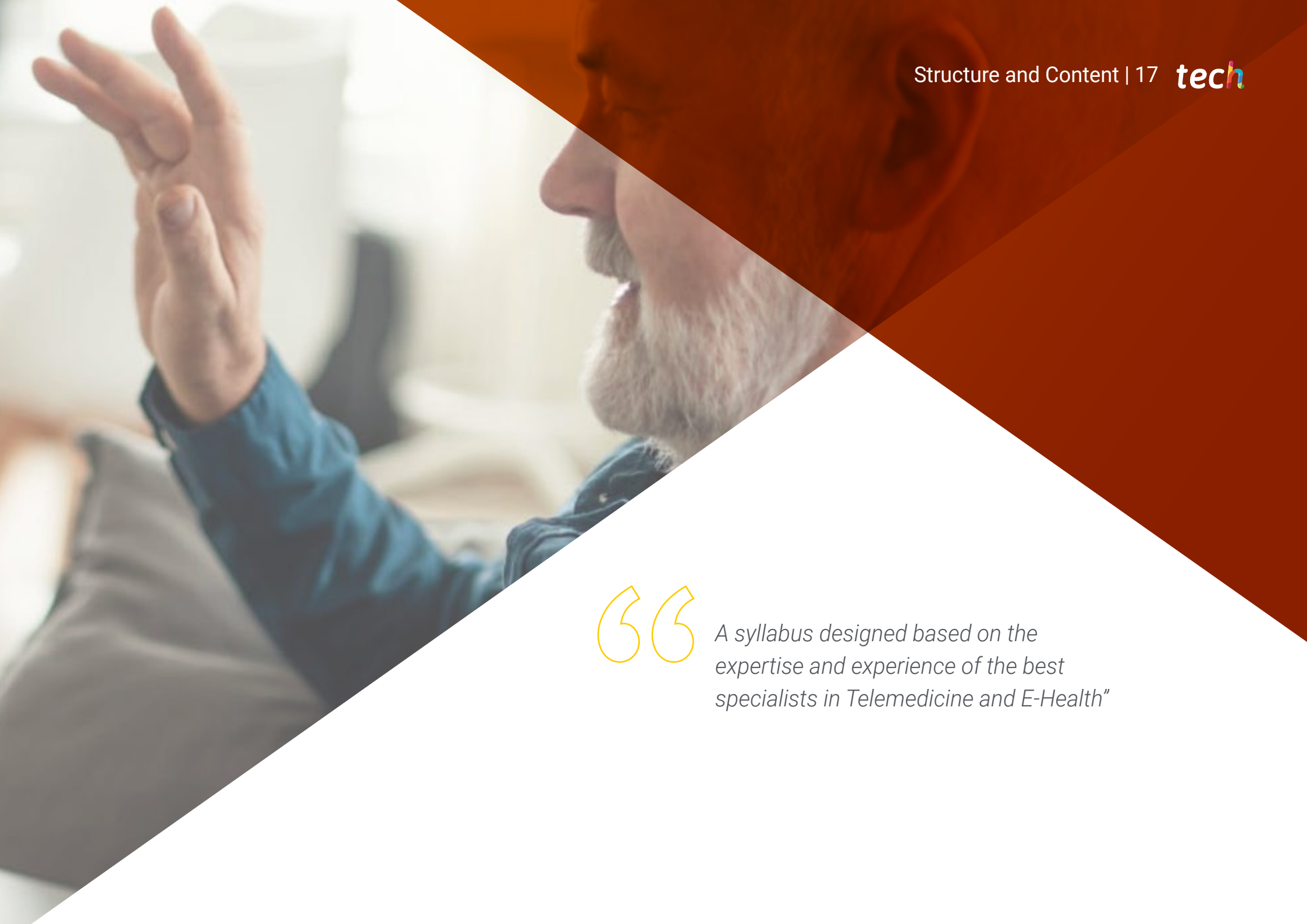
Dr. Somolinos Simón, Francisco Javier

- Biomedical Engineering Researcher at the Bioengineering and Telemedicine Group of the Polytechnic University of Madrid
- R&D&I Consultant at Evalue 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 unfolds following the different influencing factors that information and communication technologies have on medical services. From the integrated service network to *smart*the bilateral relationships that have developed between computer science and medicine and related areas. All this is delivered in a strategic way in this program thoroughly distributed and, moreover, designed so that students can complement their study of the subject in a practical way with the digital tools that TECH offers.



A syllabus designed based on the expertise and experience of the best specialists in Telemedicine and E-Health"

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. General Applications of Telemedicine
- 1.5.1. Telecare
- 1.5.2. Telemonitoring
- 1.5.3. Telediagnostics
- 1.5.4. Teleeducation
- 1.5.5. Telemanagement

1.6. Clinical Applications of Telemedicine
- 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

TECH offers you the best program to become a specialist at the forefront of Medical Devices and Health Sciences"

05

Study Methodology

TECH is the world's first university to combine the case study methodology with Relearning, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career"

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.
The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

"At TECH you will NOT have live classes (which you might not be able to attend)"

The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

> *TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"*

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.

Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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.

A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

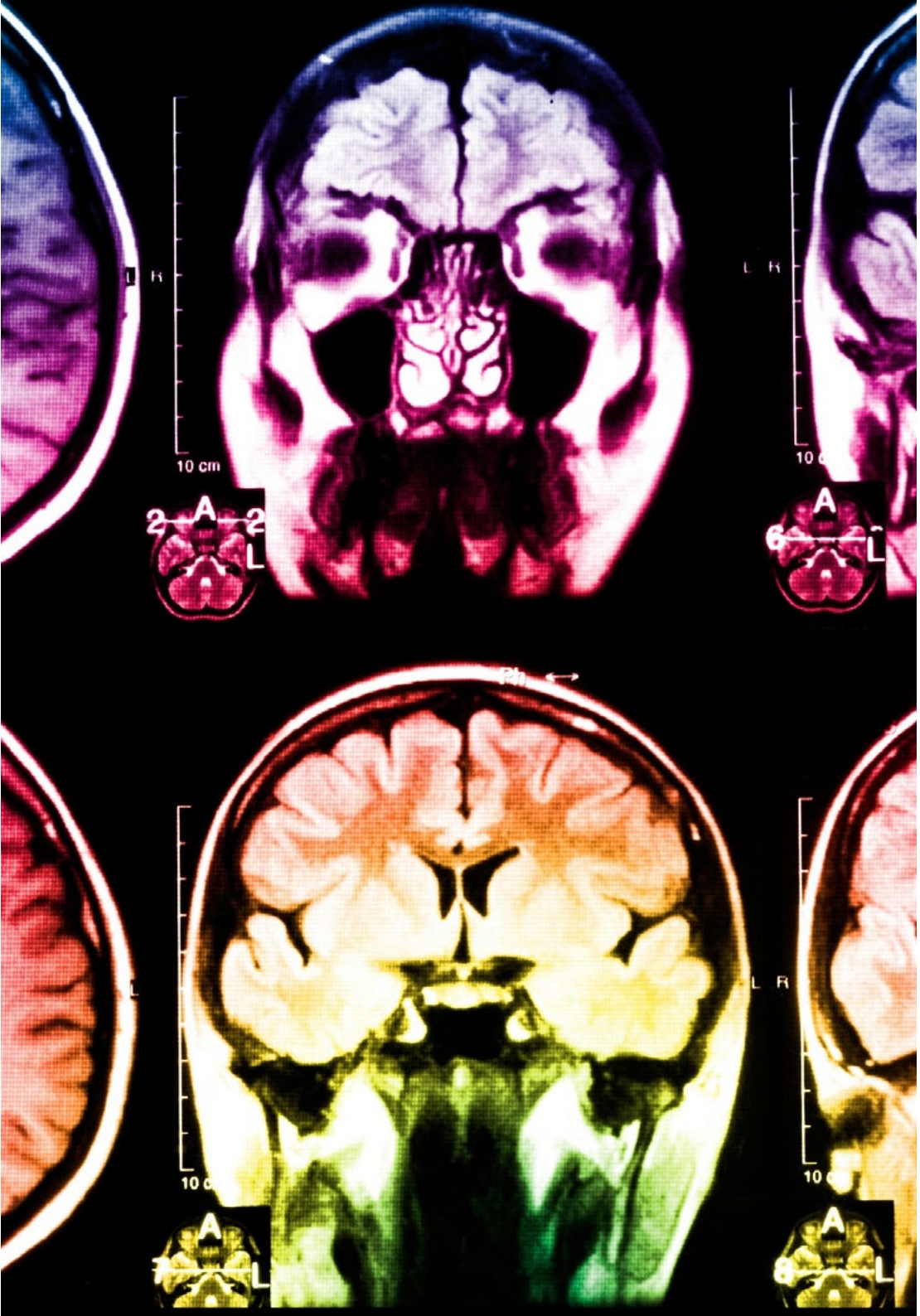
In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.

The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

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 assess 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.



The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the quality of teaching, quality of materials, course structure and objectives is excellent. Not surprisingly, the institution became the best rated university by its students on the Trustpilot review platform, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

As such, the best educational materials, thoroughly prepared, will be available in this program:

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.

Practicing Skills and Abilities

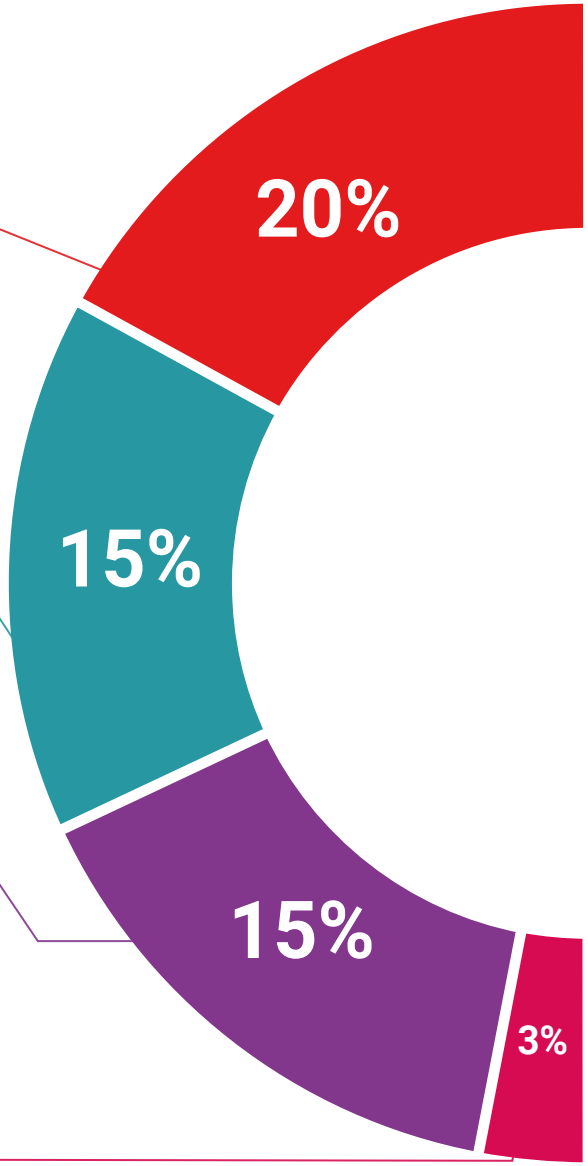
You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.

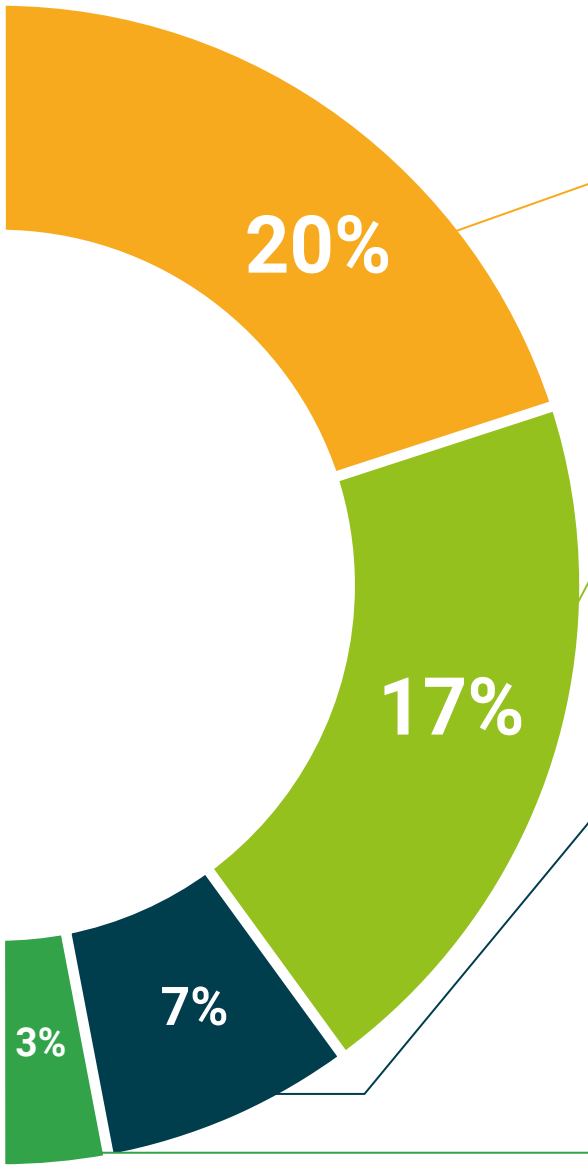
Interactive Summaries

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 exclusive educational system for presenting multimedia content 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 education.





Case Studies

Students will complete a selection of the best case studies in the field.
Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

Classes

There is scientific evidence suggesting that observing third-party experts can be useful.
Learning from an expert strengthens knowledge and memory, and generates confidence for 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

This 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

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 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 E-Health Devices: Telemedicine and Medical Devices**

Modality: **online**

Duration: **6 weeks**


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

E-Health Devices: Telemedicine and Medical Devices

This is a qualification awarded by this University, equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
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 EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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Postgraduate Certificate

E-Health Devices: Telemedicine and Medical Devices

- Modality: **online**
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Postgraduate Certificate
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