

# Professional Master's Degree

## Telemedicine





## Professional Master's Degree Telemedicine

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/in/medicine/professional-master-degree/master-telemedicine](http://www.techtute.com/in/medicine/professional-master-degree/master-telemedicine)

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# 01

# Introduction

Due to the paradigm shift in doctor-patient relationships, accelerated by the current pandemic situation, medical practice is conditioned by factors such as data protection, privacy and information security, key factors associated with the use of new technologies in healthcare. As a result, more and more healthcare organizations are committed to establishing quality and safety management systems for the patient to ensure the quality of diagnoses and treatments. As a result, this program in Telemedicine was created, which goes in depth into all the concepts associated with the management of the service that the doctor offers to the patient telematically.





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*eHealth is here to stay, and this Professional Master's Degree in Telemedicine gives you all the tools you need to master the virtual health sector with guaranteed success"*



Since its inception, the health system has been based on a paternalistic model, where the health sector and the health professional have been considered responsible for the patient's health. Hence, digital information systems are the basis of integration for any strategy of change towards eHealth, as they modulate the provision and measurement of outcomes in terms of the relative preferences of decision-makers. Information and Communication Technologies provide solutions to problems related to agents' risk choices in the presence of information asymmetries.

On the other hand, with the birth of the internet, social networks and applications, in recent years a paradigm shift has begun, in which the patient begins to explore his or her potential to make changes that benefit their health. This represents the basis of patient-centered medicine, where patients, healthcare professionals and the healthcare sector work together to empower the patient for the prevention, timely diagnosis and better management of diseases. Aspects such as ethics and medical and telemedicine-related liability are also taken into account.

Furthermore, the student will deepen their understanding of data science and Big Data, as well as all the subject matter related to what is behind the problems, applications, Big Data systems, Artificial Intelligence and the Internet of Things (IoT).

Altogether, it is an innovative and essential Professional Master's Degree which will prepare the future doctor, by establishing the usefulness of data science in the field of health, showing the different problems and benefits that this discipline provides on a virtual level.

The extensive experience of the teaching staff and their training in this area of medicine, positions this Professional Master's Degree above all others on the market, so that the graduate can count on a benchmark of excellence. Both the management of the Professional Master's Degree and the teaching staff will provide students with their knowledge and professional experience, all with a practical focus.

Furthermore, it is a 100% online Professional Master's Degree that provides professionals with the ease of being able to study it comfortably, wherever and whenever they want. All you need is a device with internet access to take your career one step further. A modality in line with present times, with TECH's guarantee of future projection.

This **Professional Master's Degree in Telemedicine** contains the most complete and up-to-date educational program on the market. The most important features include:

- ♦ The development of case studies presented by Telemedicine experts
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional development
- ♦ Practical exercises where self-assessment can be used to improve learning
- ♦ 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



*Thanks to this complete Professional Master's Degree you will learn to manage your patient's consultations telematically, investing in quality health care with a future"*

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*Telecare has been proven to save lives. Propel your career in medicine towards change with the most demanded Professional Master's Degree in the healthcare sector"*

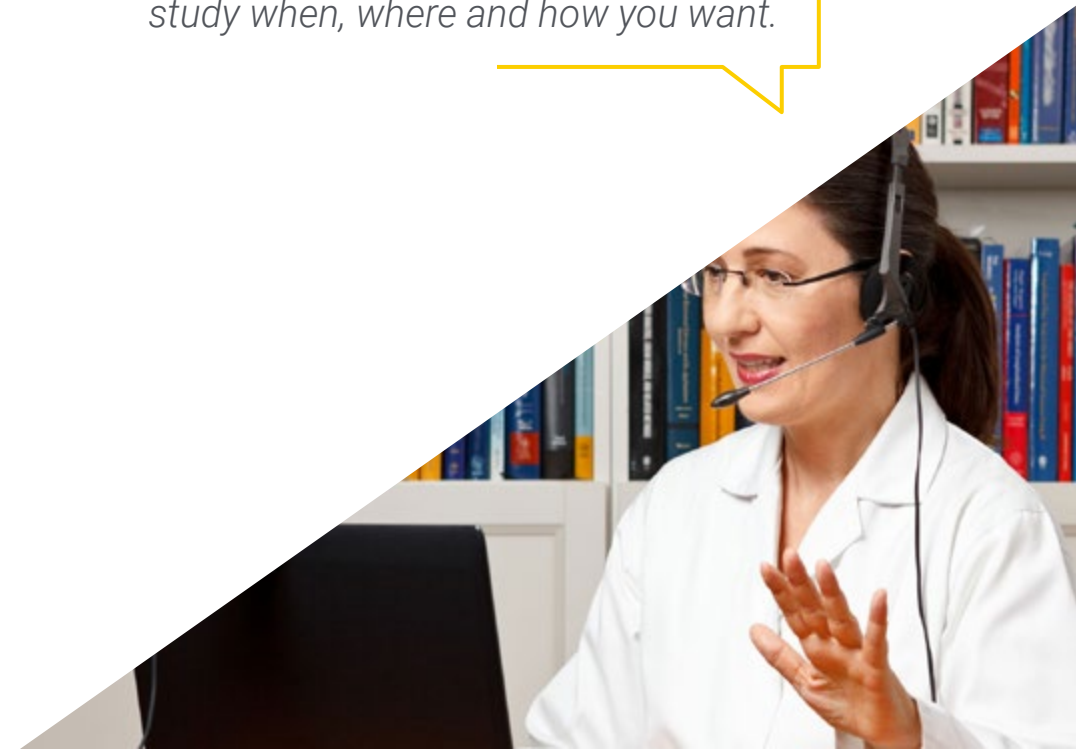
The teaching staff is made up of professionals in the field who bring to this program the experience of their work, in addition to recognized specialists from prestigious reference societies and universities.

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 learning programmed to train 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 throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

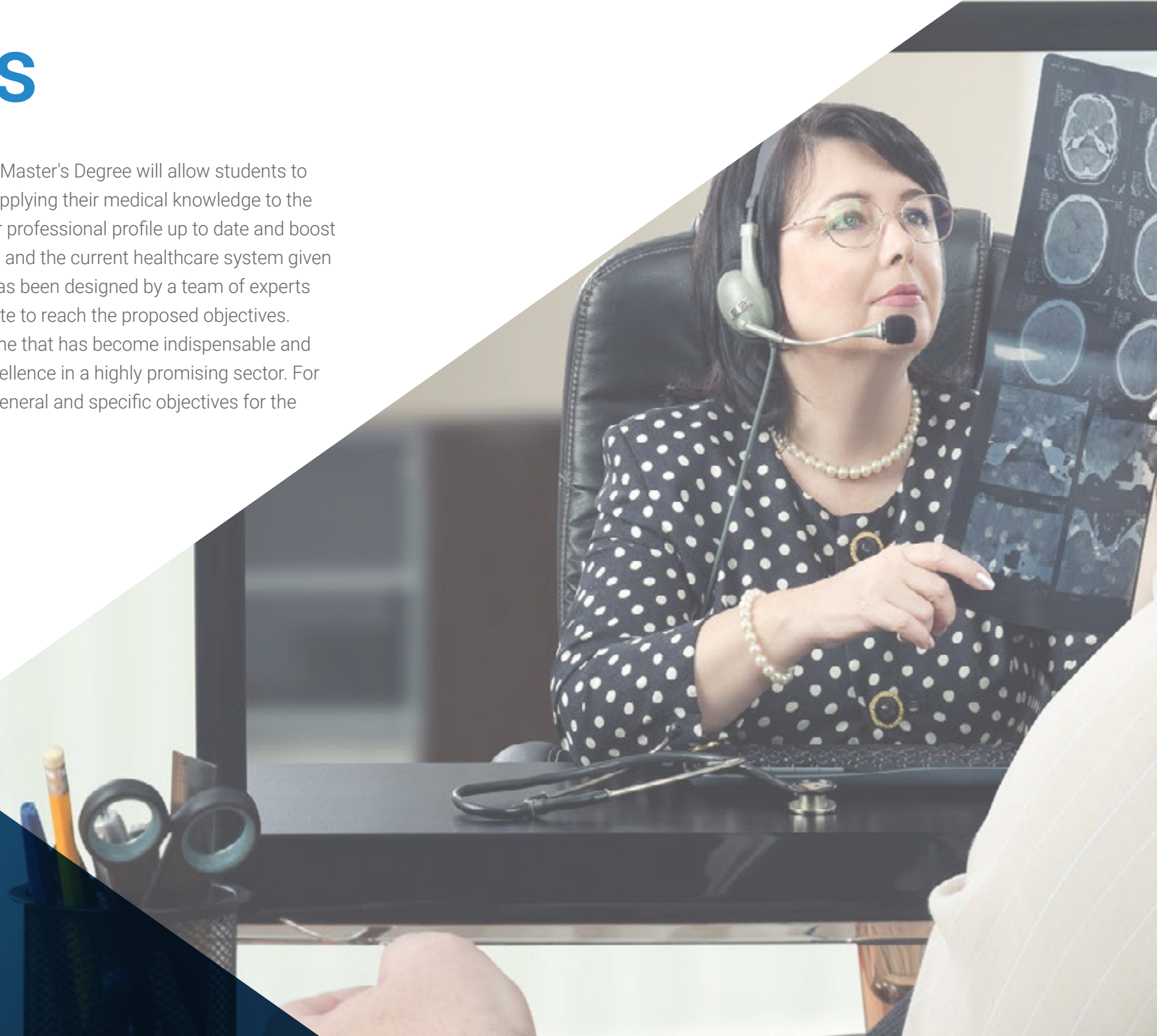
*Take the digital leap: become a doctor who offers teleconsultations and facilitates diagnoses to their patients virtually.*

*Learn everything about Telemedicine while you continue to carry out your professional work thanks to this 100% online Professional Master's Degree, that you can study when, where and how you want.*



# 02 Objectives

The design of the program of this Professional Master's Degree will allow students to develop in the digital and virtual environment, applying their medical knowledge to the telehealth sector. In this way, you will bring your professional profile up to date and boost your career to a position demanded by patients and the current healthcare system given the current pandemic situation. The program has been designed by a team of experts with contents that will enable the future graduate to reach the proposed objectives. You will be fully empowered in a field of medicine that has become indispensable and is already established, guiding you towards excellence in a highly promising sector. For this reason, TECH has established a series of general and specific objectives for the satisfaction of future graduates, as follows:





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*The Professional Master's Degree you were looking for is already here: the most advanced technology currently integrated in Telemedicine at your disposal"*



## General Objectives

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- ♦ Deepen understanding of the environment in which telemedicine services are developed, including challenges, limitations and opportunities in the area
- ♦ Delve into the ethical, legal, technical and medical aspects of creating and implementing telemedicine projects
- ♦ Gain a deeper understanding of the different areas of use of ICTs in health care
- ♦ Master the new techniques and technologies that are emerging to better serve patients and their needs
- ♦ Further the analysis, development, implementation and evaluation of eHealth and telemedicine projects
- ♦ Identify the political, social, legal, technological and economic fundamentals and dimensions for the implementation of ICT in health systems
- ♦ In-depth study of the ethical and legal aspects of attending a patient by telematic means
- ♦ Delve into the importance of digital interoperability in healthcare and the application of standards for its implementation
- ♦ Recognize the importance of empowering patients and healthcare stakeholders in the world of digital health
- ♦ Master learning and differentiate between reliable and unreliable sources of information
- ♦ Learn the main aspects of project evaluation and its technical dimensions
- ♦ Obtain skills for the clinical application of technologies





## Specific Objectives

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### Module 1. eHealth, ICTs in Public and Community Health

- ♦ Deepen understanding of the conceptual map and operational framework of eHealth and telemedicine
- ♦ Deepen understanding of the conceptual map of healthcare systems
- ♦ Further understanding of health system organizations

### Module 2. Legislation, Ethics and Safety in e-Health

- ♦ Master the ethical-legal framework for the implementation of new technologies
- ♦ Thoroughly study patient and health professional responsibilities in telemedicine practice
- ♦ Deepen awareness of the need for privacy and security of information
- ♦ Define data protection legislation
- ♦ Master and apply data security and privacy
- ♦ Differentiate between the various bioethical approaches and their ICT application
- ♦ Develop the different implementation measures to ensure patient safety in a quality management environment

### Module 3. eHealth Information Systems

- ♦ Deepen understanding of how eHealth and telemedicine information systems work
- ♦ Develop the use of standards and project interoperability as an element of integration
- ♦ Further understanding of the concept of ontologies and semantic terms, including the most commonly used ones





#### **Module 4. Patient-Centered Medicine: ePatient**

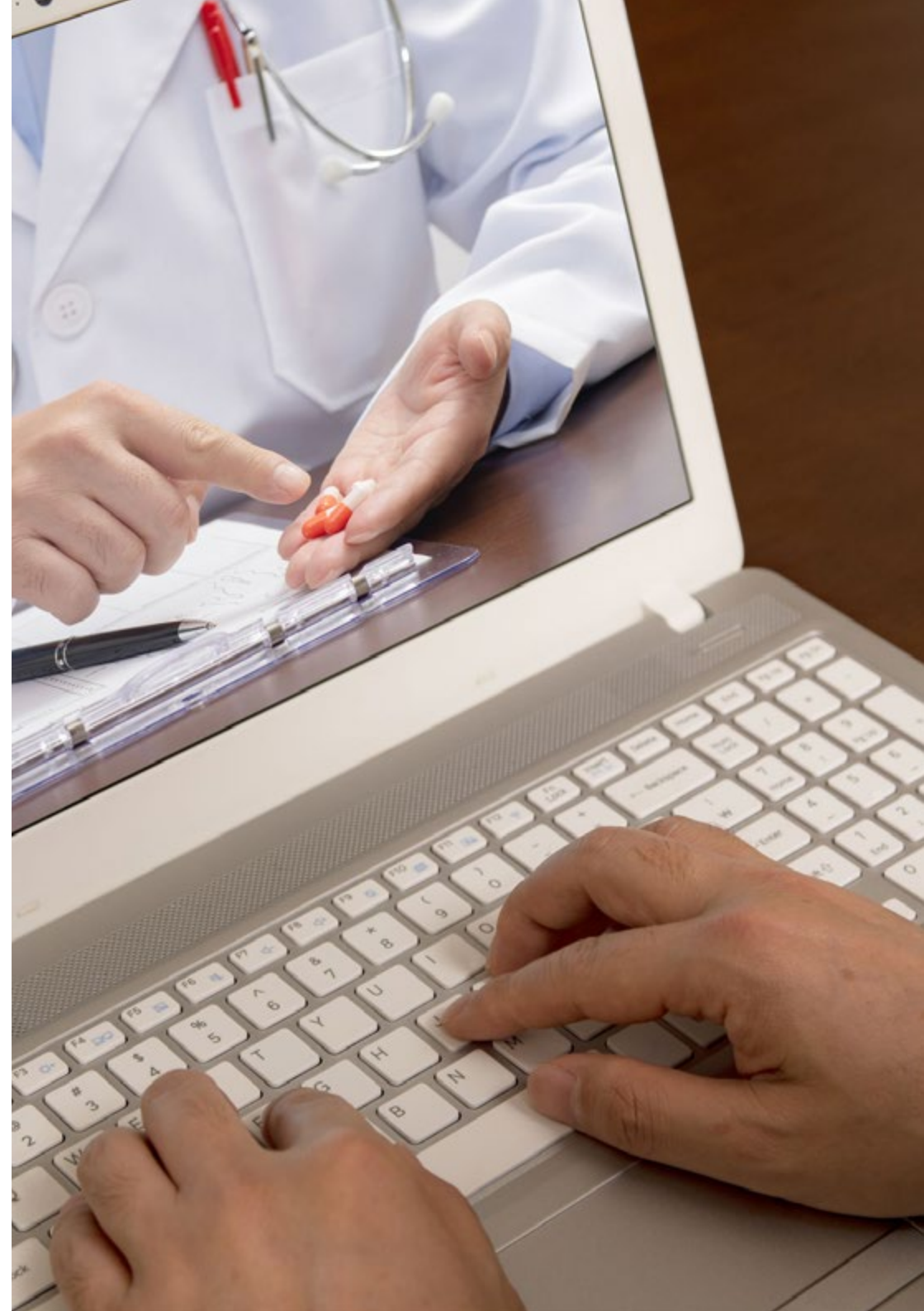
- ♦ Explore the power of the patient in the prevention and timely diagnosis of diseases through ICTs
- ♦ Increase awareness of the digital tools and services available
- ♦ Develop the methodology for the validation of communication channels
- ♦ Identify the strengths, weaknesses, threats and opportunities offered by these vehicles
- ♦ Develop health promotion material through communication channels

#### **Module 5. Health Promotion Through ICTs**

- ♦ Address the development of ICTs and their influence on health promotion
- ♦ Gain deeper understanding of the impact of implementing technological tools in health promotion from a managerial point of view
- ♦ Understand the specific knowledge and technologies required for Health Promotion interventions in health and social settings

#### **Module 6. Data Analytics, Big Data in Healthcare, Traceability, and Artificial Intelligence**

- ♦ Delve into the advanced technological features that can be integrated into telemedicine
- ♦ Understand both the operation and the objectives of the use of these features
- ♦ Understand the usefulness of data analysis for decision making (MEB)
- ♦ Correctly use the system environment of advanced information data to information with its projection and then on to knowledge and wisdom



**Module 7. Skills and Requirements for Clinical Application in Telemedicine**

- ♦ Acquire skills for the integration and incorporation of technologies in health and clinical processes
- ♦ Identify the necessary tools for the management of change. The disruption of the technological era in healthcare
- ♦ Provide resources for the promotion of healthy lifestyles using new technologies

**Module 8. Communication and Digital Marketing Applied to Telemedicine Projects**

- ♦ Further exploration of the digital environment: its possibilities and risks
- ♦ Mastery of an eHealth project in the digital world
- ♦ Define a communication and sales strategy
- ♦ Define the objectives I want to achieve
- ♦ Develop a strategy that will enable me to achieve these objectives
- ♦ Develop digital marketing techniques that will allow to achieve the objectives

**Module 9. Telemedicine Project Strategy, Implementation and Evaluation**

- ♦ Deepen the knowledge and skills for the analysis of the needs of health professionals and the health sector, to provide solutions through ICT projects
- ♦ Delve into the process by which a technological project is designed for the healthcare sector
- ♦ Master the process by which the implementation of an ICT project is carried out
- ♦ Deepen knowledge of the evaluation of ICT projects
- ♦ Explore in depth the different areas and sectors where telemedicine is in operation

**Module 10. Business Models and Skills**

- ♦ The concept of digital transformation and its impact on the company
- ♦ Indicate the skills needed to build and develop a business model
- ♦ Product development & management; MVP & technological validation
- ♦ Further study the notions of legislation, privacy and intellectual property
- ♦ Deepen the search for financing and alternative methods



*You will achieve your goals thanks to the syllabus which has been created by experts from this field of medicine"*



# 03 Skills

The structure of this Professional Master's Degree has been designed in such a way that professionals are able to master the processes of transformation of the healthcare system to digital healthcare, in addition to managing the quality and safety of the patient by applying both the current regulations and the ethics of the virtual activity of the service. Thanks to its unique methodology and the support of the experts who have designed it, the professional will be positioned in the most innovative and in-demand medical sector. You will be able to perform the diverse and relevant roles, in conjunction with the most innovative solutions in this field, guiding you towards excellence and professional success.



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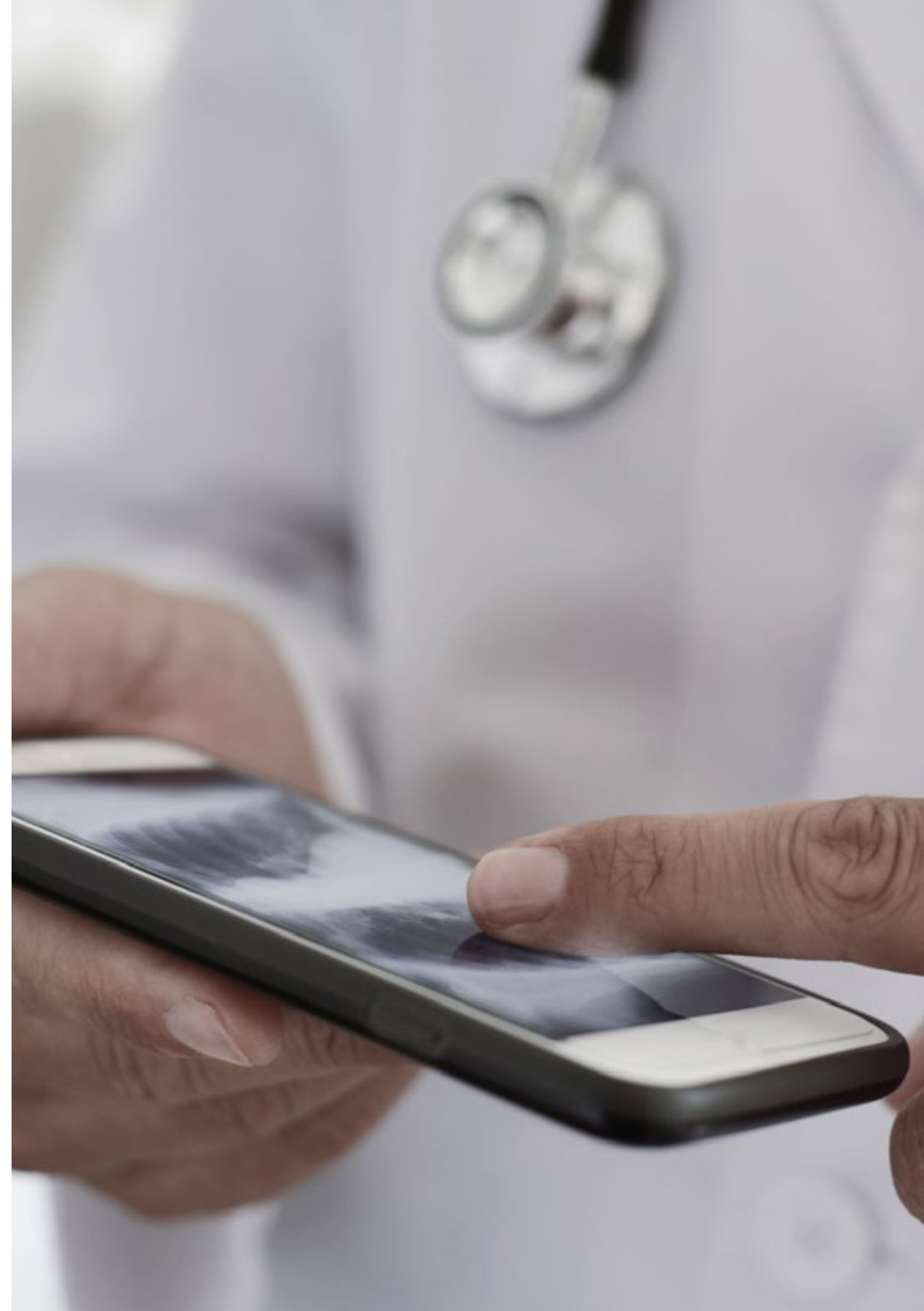
*The skills you will acquire after completing this Professional Master's Degree will position you as a physician who is aware of the current circumstances, providing a better service to your patients"*



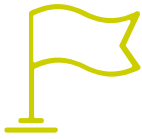
## General Skills

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- ♦ Master the transformation processes of the healthcare system to digital health, manage quality and patient safety by applying current regulations and the ethics of digital activity
- ♦ Be able to recognize the different standards defined for the health care sector. In addition, students will delve into the concept of health ontology and its importance in the field of digital health
- ♦ Acquire the necessary knowledge and skills of patient-centered medicine, its potential and the main technological tools required for its application, to be able to develop ICT projects, in which the patient-centered medicine is the core component
- ♦ Further develop skills for the use and literacy of the healthcare professional for the implementation of telemedicine in the healthcare sector
- ♦ Deepen understanding of the conceptual basis for the proper implementation and management of a telemedicine system. From different points of view, such as technological infrastructure, human resources, guidelines for the teleconsultation process
- ♦ Deepen understanding of the use of telemedicine thanks to the analysis of user cases for the different needs of the health care sector with the patient-centered medicine approach
- ♦ Take on a technological and health business project and transform it into a reality







## Specific Skills

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- ♦ Be capable of managing the processes of quality of care and perceived quality of health services given to people
- ♦ Master the regulatory and ethical implications of digital health activity
- ♦ Manage quality and patient safety
- ♦ Be capable of deepening understanding of the importance of interoperability in the healthcare field in order to be able to choose the most appropriate solutions to the challenge of developing processes that require interoperability
- ♦ Be able to recognize the different standards defined for the health care sector. In addition, students will delve into the concept of health ontology and its importance in the field of digital health
- ♦ Acquire the knowledge and skills required in patient-centered medicine, its potential and the main technological tools required for its application, in order to be able to develop ICT projects, in which the patient-centered medicine is the core component
- ♦ Be able to integrate the principles of health promotion within the diverse contexts and perspectives related to the possibilities of channeling skills and attitudes through the use of ICTs. Explore and disseminate models and intervention design schemes in relation to the determinants of health and social elements of health will be addressed
- ♦ Delve into the importance of big data the different types of analytical models
- ♦ Explore the right data questions to ask, communicate effectively with data scientists, and carry out deep examinations of large and complex datasets
- ♦ Further develop skills for the use and literacy of the healthcare professional for the implementation of telemedicine in the healthcare sector
- ♦ Deepen understanding of the conceptual basis for the proper implementation and management of a telemedicine system. From different points of view, such as technological infrastructure, human resources, guidelines for the teleconsultation process
- ♦ Deepen understanding of the use of telemedicine thanks to the analysis of user cases for the different needs of the health care sector with the patient-centered medicine approach
- ♦ Students will learn how to create a strategy to publicize their own targeted digital health project, as well as the different techniques to achieve their communication and sales objectives
- ♦ Starting from problem analysis or the need of the healthcare sector, in which the ICT project will be developed, the student will develop and implement the project while learning about the different areas where telemedicine is already implemented
- ♦ Acquire the definitive knowledge for the assessment of ICT projects for the healthcare sector
- ♦ Take on a technological and health business project and transform it into a reality. We will present key concepts that will allow the student to discover business opportunities in the healthcare field, develop an innovative business idea and plan for its successful implementation

04

# Course Management

In accordance with its maxim of offering an elite education for all, TECH counts on renowned professionals in order for the student to acquire solid knowledge in the specialty of Telemedicine. For this reason, this Professional Master's Degree has a highly qualified team with extensive experience in the sector, which will offer the best possible resources for students in the development of their skills during the course. In this way, students have the guarantees they need to specialize in this rapidly expanding sector that will catapult them to professional success, while also contributing to the development of their professional functions in a sustainable and responsible manner for the benefit of society.







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*Succeed with the help of the very best and acquire the knowledge and skills you need to embark in tele-assisted healthcare, become a professional in the field of telemedicine"*

## Management



### Dr. Serrano Aísa, Pedro Javier

- ♦ Consultant physician in the area of Cardiology of the Aragonese Health Service. Since 2000 he has been working at the Hospital Clínico Universitario de Zaragoza
- ♦ Associate Professor ASP4 in the area of Physiology and Pharmacology in the Faculty of Medicine in Zaragoza
- ♦ Cardiology Care at the ADESLAS Zaragoza Medical Center and at the MAZ Center in Ejea de Los Caballeros
- ♦ Head of the Cardiology Department of Viamed Montecanal Hospital, Zaragoza, Spain
- ♦ Director of Cardiomoncayo S.L. (primarily providing Cardiological health care services)
- ♦ Degree in Medicine and Surgery from the University of Zaragoza
- ♦ Doctor of Medicine and Surgery from the University of Zaragoza



### Dr. Achkar Tuglaman, Nesib Nicolás

- ♦ Director of Clinical Telemedicine at AtrysHealth
- ♦ Co-founder of the International Telemedicine Hospital
- ♦ Associate Professor in Biomedical Engineering at the Carlos III University of Madrid
- ♦ Specialist in Family and Community Medicine
- ♦ Degree in Medicine from the University of Navarra
- ♦ Master's Degree in Medical Research from the University of Zaragoza
- ♦ Master's Degree in Telemedicine from the University Oberta de Catalunya (UOC)



### **Dr. Sánchez Bocanegra, Carlos Luis**

- Head of the IT Department of the Junta de Andalucía (Regional Government of Andalusia)
- Collaborating Professor at the University of Distance Education (UNED) and the Open University of Catalonia (UOC)
- Director of several Professional Master's Degree Final Projects at the University Hospital Italiano in Argentina and the School of Medicine at the University of Antioquia
- PhD in Computer Engineering from the University of Seville, specializing in Medical Informatics and eHealth
- Master's Degree in Free Software by the Open University of Catalonia (UOC)
- Computer Management Engineer from the University of Malaga (UMA)
- Graduate in Information Systems Engineering from the Catholic University of Avila (UCAV)
- Member of HOPE (Health Operation for Personalized Evidence) project group and of the Anti-Vaccine Project Author of several articles on ePatients, social networks and social media applied to health. Currently focused on Big Data and Artificial Intelligence applied to health and informatics

## Professors

### Dr. Chacón Vargas, Karla Azucena

- ♦ State Coordinator of Telehealth for the Ministry of Health of Chihuahua
- ♦ Collaborating professor of the Professional Master's Degree in Digital Health at the University Oberta de Catalunya
- ♦ Leader of international research projects in digital health based on artificial intelligence, with Universities and Health Institutions in Argentina, Denmark, Spain and the United States
- ♦ WHO collaborator as a reviewer of eHealth documents
- ♦ Diabetes Educator from the Autonomous University of Chihuahua
- ♦ Degree in Medical Surgery from the Autonomous University of Ciudad Juarez
- ♦ Master's Degree in Telemedicine from the University Oberta de Catalunya (UOC)
- ♦ Certified by PAHO in the operational model for Telemedicine
- ♦ Author of teaching material for the Professional Master's Degree in Digital Health from University Oberta de Catalunya. Author of book chapter 'Open data is the means to innovate in health' for UNAM and CONACYT

### Dr. Gómez Navarro, Cristina

- ♦ Responsible for the launch of Ecosistema Más Empresa
- ♦ Banking professional since 2007, expert in communication and entrepreneurship
- ♦ Law Degree from the University of Zaragoza
- ♦ Master's Degree in Digital Marketing from ESIC and ISO Certification in Customer Experience



**Dr. Passadore, Nicolás**

- ♦ Member of the Interdisciplinary Research Group HOPE, which has members from Spain, Mexico and Argentina, with a focus on Big Data and Artificial Intelligence applied to health and medical computing
- ♦ Project leader of the Digital Transformation of several hospitals, from the design, development and implementation of the IT system
- ♦ Degree in Computer Science
- ♦ Professional Master's Degree in Telemedicine (UOC) and in Big Data and Business Intelligence
- ♦ Specialist in Medical Informatics, with more than 15 years of experience in the field

**Dr. Urrutia Rica, Rosa**

- ♦ Leader in Telemedicine the area of Quality and Environment and as the Group's Data Protection Delegate Since 2016, she has been working for the AtrysHealth Group
- ♦ Degree in Biology from the University of Barcelona
- ♦ Specialized in the Integrated Management of Quality, Environment, Occupational Risk Prevention and Data Protection

**Dr. Serra, Guillem**

- ♦ Founder and CEO of MediQuo
- ♦ Founder of MeetingDoctors
- ♦ In-depth knowledge in the eHealth market, MedTech and Medical Start-ups
- ♦ Degree in Surgery and Medicine from the Autonomous University of Barcelona
- ♦ Professional Master's Degree in Bioengineering at the University Polytechnic of Catalonia
- ♦ MBA en IESE Business School - University of Navarra



05

# Structure and Content

The syllabus has been designed based on the requirements of telecare medicine, which has gained significant importance in the wake of the current pandemic situation. For this reason, it has become an essential training for any physician in today's world. Thus, the content of the Professional Master's Degree has been structured in ten modules that include all the necessary information for the student, incorporating all the elements that may be involved in the execution of their duties in eHealth.



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*This program of study, created by professionals in the sector, guarantees you a successful learning experience with contents that you will end up applying in your day-to-day work"*

## Module 1. eHealth, ICT in Public and Community Health

- 1.1. Healthcare Systems in the 21st Century: eHealth (Telemedicine, mHealth, Ubiquitous Health)
  - 1.1.1. The Organization of International Healthcare Systems
    - 1.1.1.1. Healthcare System Models
    - 1.1.1.2. Financing and Provision
    - 1.1.1.3. Sources of Healthcare System Financing
  - 1.1.2. The Actors and Roles in the Healthcare System
  - 1.1.3. The Current State of Telemedicine. Evolution
    - 1.1.3.1. Medicine 1.0 to Medicine 5.0
      - 1.1.3.1.1. 1.0 Personalized
      - 1.1.3.1.2. 2.0 Predictive
      - 1.1.3.1.3. 3.0 Preventative
      - 1.1.3.1.4. 4.0 Participative
      - 1.1.3.1.5. 5.0 Populational
- 1.2. The Challenges of Public and Community Health and Information and Communication Technologies (ICTs)
- 1.3. Evaluation and Quality of Care. What Do Citizens Think?
- 1.4. The Key Aspects of Health Reforms and the Implementation of New Models
  - 1.4.1. The Management Process for Healthcare Reform
  - 1.4.2. Telemedicine and Healthcare Reforms
  - 1.4.3. Health Management Models with Telemedicine

## Module 2. Legislation, Ethics and Safety in eHealth

- 2.1. Protection of Personal Health Data. GDPR
- 2.2. The Security and Privacy of Health Information
- 2.3. Data Protection and Patient's Rights. Informed Consent
- 2.4. Recommendations and Good Practice to Ensure Security and Privacy
  - 2.4.1. The Risks of Using New Technologies in Medicine
  - 2.4.2. Security Controls in Data Processing
  - 2.4.3. Specific Recommendations for the Handling of Health Data
- 2.5. Ethical Issues in the Telematic Provision of Health Services. Informed Consent in Telemedicine
- 2.6. Characteristics of the Doctor-Patient Relationship in Telemedicine
  - 2.6.1. The Evolution of the Doctor-Patient Relationship Throughout History
  - 2.6.2. The Influence of New Technologies in the Doctor-Patient Relationship
  - 2.6.3. Recommendations for Maintaining an Optimal Doctor-Patient Relationship in Telematic Services
- 2.7. Legislation and Bioethics in Clinical Practice, Research and Clinical Trials
  - 2.7.1. The International Code of Medical Ethics
  - 2.7.2. Ethics Committees for Medical Research
  - 2.7.3. The Handling of Data Associated with Clinical Trials
- 2.8. Medical Liability
  - 2.8.1. The Regulatory Context of Medical Liability
  - 2.8.2. Confidentiality
  - 2.8.3. The Characteristics of Medical Liability Associated with Telemedicine
- 2.9. Lex Artis and Telemedicine
- 2.10. Patient Safety and Quality Assurance

### Module 3. eHealth Information Systems

- 3.1. Health Information Systems
- 3.2. Healthcare Information Systems (HIS)
- 3.3. Health Information Systems within an International Framework
- 3.4. Information Systems and their Relationships
- 3.5. Health Models
- 3.6. The Clinical Layer of Information Systems
- 3.7. Clinical Documentation
- 3.8. Interoperability in Healthcare
- 3.9. Syntactic and Semantic Digital Healthcare Standards
- 3.10. Ontologies and Terminologies in the Healthcare Field
  - 3.10.1. Main Semantic Ontologies
  - 3.10.2. The Functionality of Healthcare Ontologies

### Module 4. Patient-Centered Medicine: ePatient

- 4.1. Patient-Centered Medicine, ePatient
- 4.2. Social Media and other Media
  - 4.2.1. Social Media Impact on Health
  - 4.2.2. Social Networks as a Means of Communication
- 4.3. Generic Communication Channels: Facebook, Twitter, Instagram
- 4.4. Proprietary Communication Channels. Personal Health Portals
- 4.5. Knowledge Managers
- 4.6. Strengths, Weaknesses, Opportunities and Threats (SWOT)
- 4.7. Social Network Analytics. Security and Privacy
- 4.8. Patient School
- 4.9. Network of Professional and Non-professional Caregivers
  - 4.9.1. Existing Models
- 4.10. Social Networks for Diseases

### Module 5. Health Promotion through ICTs

- 5.1. Health Promotion
- 5.2. Social Determinants of Health
  - 5.2.1. The Healthcare System
  - 5.2.2. ICTs to Better Distribute Health and Wellbeing
- 5.3. Community Health and Community Development
- 5.4. Salutogenesis and Health Assets: The Assets Maps
  - 5.4.1. Salutogenesis and Health Assets
  - 5.4.2. The Assets Maps
- 5.5. Health Promotion and Prevention Strategy in the National Health System
- 5.6. The Organization and Management of Health Promotion Based on Digital Approaches
- 5.7. Primary Health Care and ICT
  - 5.7.1. First Contact Providers
- 5.8. Promoting Active and Healthy Aging through Digital Solutions
  - 5.8.1. Problem Solutions with ICT Support
  - 5.8.2. Adherence in Chronic Elderly Patients
- 5.9. The Digital Literacy of Healthcare Professionals
  - 5.9.1. The Need for Digital Health Training for Professionals
  - 5.9.2. Implementing Digital Literacy Planning
- 5.10. The Future of Health Promotion and Disease Prevention in a Mobile Health Context
  - 5.10.1. Artificial Intelligence in the Prevention and Early Diagnosis of Diseases
  - 5.10.2. Apps and their Impact on Health Promotion

## Module 6. Data Analytics, Big Data in Healthcare, Traceability, and Artificial Intelligence

- 6.1. The Data
  - 6.1.1. Data Life Cycle
- 6.2. Application of Data Science and Big Data in Healthcare
- 6.3. State-of-the-Art in Healthcare and Artificial Intelligence
  - 6.3.1. The Uses of AI in Healthcare
- 6.4. Blockchain Technology
- 6.5. Virtual and Augmented Reality, the Internet of Things (IoT) and Home Automation
  - 6.5.1. The Uses of Virtual/Augmented Reality in Healthcare
  - 6.5.2. Uses of IoT in Healthcare
  - 6.5.3. Uses of Home Automation in Healthcare
- 6.6. Patient-Centered Artificial Intelligence: Neural Networks, Chatbots, Machine Learning
- 6.7. Emerging Applications in Healthcare Using AI
  - 6.7.1. Leading Emerging Applications of AI in Healthcare
- 6.8. Bioinformatics
- 6.9. Semantic Web in Healthcare
  - 6.9.1. Languages Used in Semantic Terminology
- 6.10. AI Implementation Strategy

## Module 7. Skills and Requirements for Clinical Application in Telemedicine

- 7.1. Telemedicine Modes
- 7.2. Medical Assistance Guidelines and Protocols
  - 7.2.1. Clinical Practice Guidelines
  - 7.2.2. Digital Clinical Practice Guidelines Models (CPGs)
- 7.3. Change Management in Telemedicine: Raising Awareness and Training
  - 7.3.1. Change Management Piloting
- 7.4. Contributions of ICTs to the "New" Healthcare Model
- 7.5. General Requirements for a Telemedicine System

- 7.6. Major Subsystem Requirements: Information Exchange and Telecommunication
  - 7.6.1. Information Systems for Telemedicine
  - 7.6.2. Interoperability of Platforms for Videoconferencing Links
- 7.7. Requirements for Digital and Ubiquitous Healthcare
  - 7.7.1. Cohesive and Interoperable Information Systems Model
  - 7.7.2. Microservices-based Model
- 7.8. Peripheral Devices
  - 7.8.1. Wearables
  - 7.8.2. Ingestible Devices
- 7.9. Telemonitoring
- 7.10. Artificial Intelligence

## Module 8. Communication and Digital Marketing Applied to Telemedicine Projects

- 8.1. The Application of Marketing to e-Health
- 8.2. The Creation of a Digital Marketing Strategy
  - 8.2.1. Funnel and Customer Segmentation
- 8.3. Traditional Advertising: SEO and SEM
- 8.4. e-Patients and Their Experience: Creation of a Digital Patient Journey
- 8.5. The Importance of Email Marketing
- 8.6. Social Media and Social Ads: Available Social Networks and What I Use Each One For
- 8.7. Inbound Marketing: A New Concept in Digital Businesses
- 8.8. e-Commerce, Payment Methods and Patient Care
- 8.9. Doctor-Patient Communication
- 8.10. Fake News and Internet Movements: Validation of Trustworthy Healthcare Websites



**Module 9. Telemedicine Project Strategy, Implementation and Evaluation**

- 9.1. Technological Innovation Models and their Application in the Health Sector
- 9.2. Healthcare Needs Analysis for the Creation of Projects
- 9.3. Design of Technological Projects for the Health Sector
- 9.4. Research Principles for Healthcare Technology Assessment
- 9.5. Viability of Healthcare Projects
- 9.6. Telemedicine Apps in the Healthcare Environment
- 9.7. Telemedicine for Immediate or Urgent Care
  - 9.7.1. Tele-Heart Attack
  - 9.7.2. Tele-Stroke
  - 9.7.3. Primary Care Consultation
- 9.8. Use of Telemedicine in Prediction, Prevention and Diagnosis
  - 9.8.1. Teledermatology
  - 9.8.2. Teleophthalmology
  - 9.8.3. Telecardiology
  - 9.8.4. Teleradiology
- 9.9. Telemedicine in Healthcare Intervention and Treatment
  - 9.9.1. Telerehabilitation
  - 9.9.2. Teleulcer
  - 9.9.3. Telesurgery
- 9.10. Application of Telemedicine in Specific Areas
  - 9.10.1. Mental Health
  - 9.10.2. Geriatrics
  - 9.10.3. Chronic Patients
  - 9.10.4. Rare Diseases
  - 9.10.5. Nurses

**Module 10. Business Models and Skills**

- 10.1. Digital Transformation: Processes, User Experience
- 10.2. The Creation of New Digitally Native Products and Services and the Emergence of Digital Business Models
- 10.3. Digital Business: The Lean Start-up, from Business Model to Business Plan
- 10.4. Industrial and Intellectual Property
- 10.5. Agile Methodology
- 10.6. Minimum Viable Products
- 10.7. Strategy and Metrics
- 10.8. Minimum Viable Product
- 10.9. Sales and Monetization
- 10.10. Lessons Learned



*With this Professional Master's Degree, you will develop the basic skills and requirements for the clinical application of Telemedicine"*

# 06 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 relearn). 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

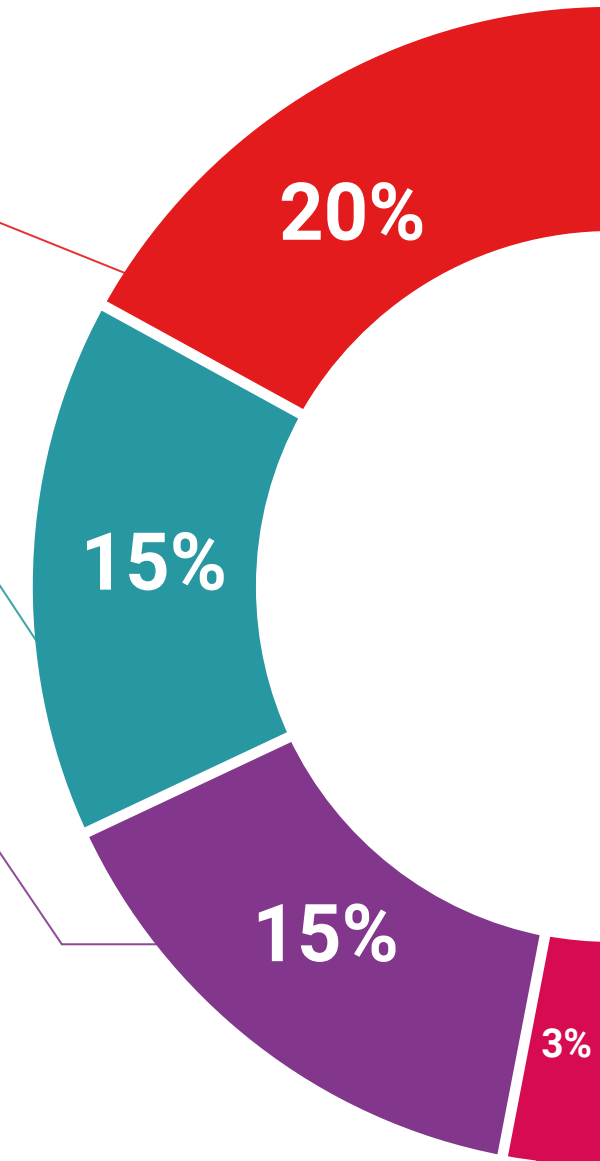
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

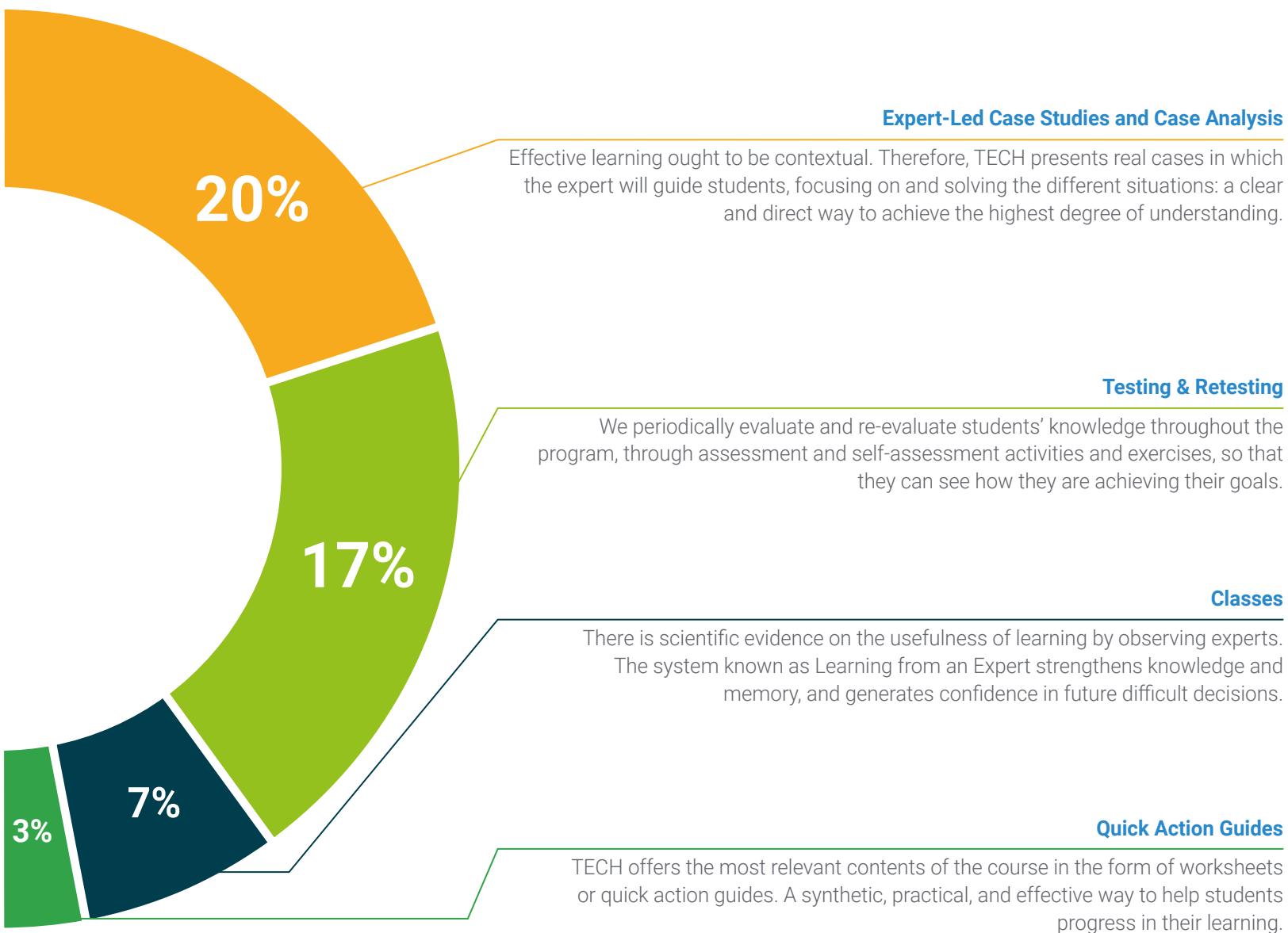
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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.







# 07 Certificate

The Professional Master's Degree in Telemedicine guarantees you, in addition to the most rigorous and updated training, access to a Professional Master's Degree issued by TECH Technological University.





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*Successfully complete this program  
and receive your university degree  
without travel or laborious paperwork”*

This **Professional Master's Degree in Telemedicine** contains the most complete and up-to-dated scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree** issued by **TECH Technological University** via tracked delivery\*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Professional Master's Degree in Telemedicine**

Official N° of hours: **1,500 h.**



Professional Master's Degree in Telemedicine			
General Structure of the Syllabus			
Year	Subject	Hours	Type
1º	eHealth, ICTs in Public and Community Health	150	CO
1º	Legislation, Ethics and Safety in e-Health	150	CO
1º	eHealth Information Systems	150	CO
1º	Patient-Centered Medicine: ePatient	150	CO
1º	Health Promotion Through ICTs	150	CO
1º	Data Analytics, Big Data in Healthcare, Traceability, and Artificial Intelligence	150	CO
1º	Skills and Requirements for Clinical Application in Telemedicine	150	CO
1º	Communication and Digital Marketing Applied to Telemedicine Projects	150	CO
1º	Telemedicine Project Strategy, Implementation and Evaluation	150	CO
1º	Business Models and Skills	150	CO
		<b>Total 1,500</b>	

*Tere Guevara Navarro*  
Tere Guevara Navarro  
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tech technological university



## Professional Master's Degree Telemedicine

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Professional Master's Degree

## Telemedicine

