

# Professional Master's Degree

## Medical Research





## Professional Master's Degree Medical Research

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

Website: [www.techtitute.com/in/physiotherapy/professional-master-degree/master-medical-research](http://www.techtitute.com/in/physiotherapy/professional-master-degree/master-medical-research)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Skills

---

*p. 12*

04

Course Management

---

*p. 16*

05

Structure and Content

---

*p. 20*

06

Methodology

---

*p. 26*

07

Certificate

---

*p. 34*

# 01

# Introduction

The physiotherapist can contribute to the rehabilitation of patients from Physiotherapy itself or, through research projects. Over the years, therapeutic studies have shown the effectiveness of physiotherapeutic care on patients and how physiology and biomechanics are closely associated with biological health. Therefore, to work towards the physiology of the organisms, the health care market requires a large number of professionals who have an in-depth mastery of new analysis strategies and the discipline. TECH offers a complete and rigorous degree to teach specialists on scientific methodologies in clinical trials and their results. A 100% online program that allows each student to adapt the pace of study.





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*With this Professional Master's Degree, you will be able to update all your knowledge about Medical and Biomedical Research in order to offer a service adapted to the digital paradigm"*

Physiotherapy has an increasing number of patients worldwide. If in ancient times injuries were treated with medications or other drugs, today they are treated with techniques that have been scientifically proven to relieve muscle tension, promote tissue mobility and the quality of movement. However, the high intrusion in this health field opens debates about its benefits and weakens the individual's confidence in this discipline.

For this reason, it is essential to have adequate Scientific Research in Medicine, because even a poor structuring of this research can invalidate therapeutic techniques already established in clinical care. In this sense, it is a science not much developed, so public and private organizations in the health area require highly qualified professionals to respond to the application of Physiotherapy through various techniques. TECH Technological University has developed a specific and rigorous program whose main objective is to instruct specialists in this area and other health professionals interested in the development of research projects under appropriate scientific protocols.

This Professional Master's Degree in Medical Research aims to update the knowledge of experts in clinical trials in order to demonstrate the capacity of physiotherapeutic techniques. An intensive learning totalizing 1,500 hours of audiovisual materials, 100% online which allows students combining the study of this program with the development of their personal and professional lives.

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

- ♦ Case studies presented by experts in Health Sciences Research
- ♦ 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 the self-assessment process can be carried out 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



*Stand out in an industry in constant change due to the incorporation of new technologies in the medical field"*

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*Still don't know the funding opportunities for health care projects? Obtain all the key information about public calls for proposals, in Europe and abroad, so that you can carry out your profession with guarantees"*

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 allow professionals to learn in a contextual and situated learning environment, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which professionals must try to solve the different professional practice situations that arise during the year. This will be done with the help of an innovative system of interactive videos made by renowned experts.

*Stay informed on the scientific method applied to population samples so you can promote clinical evidence in physical therapy.*

*Boost your career by being part of collaborative research projects that have created extensive professional networks.*



# 02

# Objectives

The main objective of the Professional Master's Degree in Medical Research is to update the knowledge of medical professionals and other health care practitioners. TECH Technological University pursues academic rigor so that, throughout the 12 months of study, students delve into the keys to collaborative research, graphical representations of clinical trials and the approach to discussion of results in the scientific report of the trials. Therefore, a unique opportunity for those specialists who choose to broaden their trial skills and promote research in their area of work.







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*Apply now multivariate analysis with R,  
which is key in research with generalized  
linear and additive models, to your trials”*



## General Objectives

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- ♦ Adequately formulate a question or problem to be solved
- ♦ Asses the state of the art of the problem through literature search
- ♦ Assess the feasibility of the potential project
- ♦ Draft projects in accordance with the different calls for proposals
- ♦ Look for A Funding Model
- ♦ Master the necessary data analysis tools
- ♦ Write scientific articles (papers) for the daily magazines
- ♦ Identify the main tools for dissemination to the non-specialized public



*Achieve your objectives thanks to efficient pedagogical tools and base your medical performance on the most up-to-date health knowledge"*



## Specific Objectives

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### **Module 1. The Scientific Method Applied to Health Research Bibliographic positioning of the research**

- ♦ Become familiar with the scientific method to be followed to carry out health research
- ♦ Learn the correct way to ask a question and the methodology to be applied in order to achieve the best possible answer
- ♦ Delve into learning how to search for bibliographic methods
- ♦ Master all the concepts of scientific activity

### **Module 2. Generation of Working Groups: Collaborative Research**

- ♦ Learn how to create working groups
- ♦ Create new biomedical research spaces

### **Module 3. Generation of Research Projects**

- ♦ Learn how to assess the feasibility of the potential project
- ♦ Know in depth the essential milestones for writing a research project
- ♦ Delve into the criteria for exclusion/inclusion in projects
- ♦ Learn how to set up the specific team for each project

### **Module 4. The Clinical Trial in Health Research**

- ♦ Recognize the main figures involved in clinical trials
- ♦ Learn how to generate protocols
- ♦ Maintain a good documentation management

**Module 5. Project Financing**

- ♦ Have an in-depth knowledge of the sources of funding
- ♦ In-depth knowledge of the different calls for proposals
- ♦ Prepare a quote to know the total price of the research

**Module 6. Statistics and R in Health Research**

- ♦ Describe the main concepts of biostatistics
- ♦ Learn how to use the R program
- ♦ Define and understand the regression method and multivariate analysis with R
- ♦ Recognize the concepts of statistics applied to research
- ♦ Describe the statistical techniques of Data Mining
- ♦ Provide knowledge of the most commonly used statistical techniques in biomedical research

**Module 7. Graphic Data Representations in Health Research and Other Advanced Analyses**

- ♦ Master the tools of computational statistics
- ♦ Learn to generate graphs for the visual interpretation of data obtained in research project
- ♦ Obtain in-depth knowledge of dimensionality reduction methods
- ♦ Delve into the comparison of methods

**Module 8. Dissemination of Results I, Reports, Memos and Scientific Articles**

- ♦ Learn the various ways of disseminating results
- ♦ Internalize how to write reports
- ♦ Learn how to write for a specialized journal

**Module 9. Dissemination of Results II, Symposiums, Congresses, dissemination to Society**

- ♦ Learn how to generate a poster at a congress
- ♦ Learn how to prepare different communications of different times
- ♦ Learning how to turn a scientific paper into dissemination material

**Module 10. Protection and Transfer of Results**

- ♦ Introduction to the world of results protection
- ♦ Know in depth about patents and similar
- ♦ You will delve into the possibilities of company creation

# 03 Skills

This program has been developed in an exhaustive manner so that, from the beginning, students have a rigorous update on the bibliographic use of health research. TECH Technological University provides this Professional Master's Degree not only for the research preparation, but also, for the last phase: the dissemination of the results. In this way, specialists receive complete instruction and master the entire scientific process that evaluates the physiotherapeutic techniques and their viability as new strategies to be integrated.





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*With this Professional Master's Degree, you will master statistics applied to Medical Research with knowledge in R, its variables and the handling of data and graphs"*

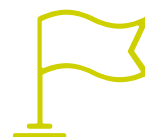


## General Skills

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- ♦ Design and write research projects in health sciences
- ♦ Use the information in documentary databases in the field of health sciences for the bibliographic support of a research project
- ♦ Perform the processing of the results obtained with statistical tools, massive data analysis and computational statistics
- ♦ Manage at an advanced user level statistical packages for the treatment of the information collected in research in the field of health sciences
- ♦ Generate graphs from the data obtained in a project
- ♦ Disseminate the results
- ♦ Perform the appropriate protection/transfer of the data generated
- ♦ Make critical and reasoned judgments on the validity and reliability of scientific information in the health field





## Specific Skills

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- Master the new spaces for health research
- Manage the different phases of clinical trials
- Manage the strategy for participation in international projects
- Generate specific project formats for funding in different calls for proposals
- Explore regression methods applied to research
- Master the tools of computational statistics
- Generate graphs for the visual interpretation of data obtained in research project
- Manage scientific reports and articles
- Disseminate data obtained to non-specialized audiences
- Value the results of a research project



*Do you want to position yourself at the forefront of advanced analytics? Achieve it now without abandoning other aspects of your life, thanks to the flexible program offered by TECH Technological University"*

# 04

## Course Management

TECH Technological University has selected under a thorough process a teaching team specialized in Medical Research, Biomechanics and Biology for this program. Thanks to their collaboration, the contents of the program are backed by reliable information based on clinical practice. In addition, students will be able to contact the teachers and discuss with them through the virtual campus. A direct communication channel, which allows the guidance of the study and the resolution of issues.







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*Learn now with the support of an experienced teaching staff in Biomedicine and that have scientific studies in order that you adopt the keys to act in real clinical scenarios”*

## Management



### Dr. López-Collazo, Eduardo

- ♦ Scientific Deputy Director in the Institute for Health Research the Health Research Institute of La Paz University Hospital
- ♦ Head of the Department of Immune Response and Infectious Diseases at IdiPAZ
- ♦ Head of the Department of Immune Response, Tumors and Immunology at IdiPAZ
- ♦ President of the IdiPAZ Research Commission
- ♦ Sponsor of the External Scientific Committee of the Murcian Institute of Health Research
- ♦ Member of the Scientific Commission of FIDE
- ♦ Editor of the international scientific journal "Mediators of Inflammation"
- ♦ Editor of the international scientific journal "Frontiers of Immunology"
- ♦ Coordinator of IdiPAZ Platforms
- ♦ Coordinator of Health Research Funds in the areas of Cancer, Infectious Diseases and HIV.
- ♦ PhD in Nuclear Physics, University of La Habana
- ♦ Doctorate in Pharmacy from the Complutense University of Madrid

## Professors

### Dr. Martín Quirós, Alejandro

- ♦ Head for Urgent Pathology of La Paz University Hospital
- ♦ Director of the Urgent and Emergent Pathology Research Group of the Research Institute of the University Hospital La Paz
- ♦ Secretary of the Teaching Commission of the Research Institute of La Paz University Hospital
- ♦ Assistant of Internal Medicine/Infectious Diseases of the High-Level Isolation Unit of the University Hospital La Paz - At Hospital Carlos III
- ♦ Internist at Olympia Quirón Hospital

### Mr. Arnedo Abade, Luis

- ♦ Data & Analyst Manager
- ♦ Data Scientist & Analyst Manager in Industrias Arnedo
- ♦ Data & Analyst Manager in Boustique Perfumes
- ♦ Data Scientist & Analyst Manager in Darecod
- ♦ Postgraduate Certificate in Statistics
- ♦ Psychology Graduate

**Dr. Gómez Campelo, Paloma**

- ♦ Researcher at the Instituto de Investigación Sanitaria, Hospital Universitario La Paz
- ♦ Deputy Technical Director of the Health Research Institute of La Paz University Hospital
- ♦ Director of the Biobank of the Health Research Institute of the University Hospital La Paz
- ♦ Collaborating Teacher of the Polytechnic University of Catalonia
- ♦ Doctorate in Psychology the Complutense University of Madrid
- ♦ Degree in Psychology from the Complutense University Madrid

**Dr. Pascual Iglesias, Alejandro**

- ♦ Bioinformatics Platform Coordinator, La Paz Hospital
- ♦ Advisor to the COVID-19 Expert Committee of Extremadura
- ♦ Researcher in Eduardo López-Collazo's innate immune response research group, Instituto de Investigación Sanitarias University Hospital La Paz
- ♦ Researcher in the coronavirus research group of Luis Enjuanes, National Center of Biotechnology CNB-CSIC.
- ♦ Coordinator of Continuing Education in Bioinformatics, Health Research Institute of the University Hospital La Paz
- ♦ Cum Laude Doctor in Molecular Biosciences from the Autonomous University of Madrid
- ♦ Degree in Biology Molecular from the University of Salamanca
- ♦ Professional Master's Degree in Cellular and Molecular Physiopathology and Pharmacology from the Universidad of Salamanca

**Dr. Avendaño Ortiz, José**

- ♦ "Sara Borrell" Researcher Foundation for Biomedical Research of the Ramón y Cajal University Hospital (FIBioHRC/IRyCIS)
- ♦ Researcher Foundation for Biomedical Research of La Paz University Hospital (FIBHULP/ IdiPAZ)
- ♦ Researcher HM Hospitals Foundation (FIHM)
- ♦ Graduate in Biomedical Sciences from the University of Lleida
- ♦ Master's Degree in pharmacological research from the Autonomous University of Madrid
- ♦ PhD in Pharmacology and Physiology from the Autonomous University of Madrid

**Dr. del Fresno, Carlos**

- ♦ Researcher Specialist in Biochemistry, Molecular Biology and Biomedicine
- ♦ "Michael Servetus" Researcher. Group Leader, Research Institute of the Hospital la Paz (IdiPAZ)
- ♦ Researcher Spanish Association Against Cancer (AECC), National Center for Cardiovascular Research (CNIC- ISCIII)
- ♦ Researcher, National Center for Cardiovascular Research (CNIC- ISCIII)
- ♦ "Sara Borrel" Researcher, National Biotechnology Center (CNIC - ISCIII)
- ♦ PhD in Biochemistry, Molecular Biology and Biomedicine, Autonomous University of Madrid
- ♦ Degree in Biology from the Complutense University of Madrid

# 05

## Structure and Content

The knowledge provided in this Professional Master's Degree in Medical Research has been contributed by experts who develop their own lines of research in Medicine. In addition, TECH Technological University uses 1,500 hours of audiovisual materials in various formats such as video summaries, activities, self-tests and explanatory videos to make the program more dynamic. All this, together with the innovative Relearning methodology, allows professionals to be highly satisfied by not having to invest long hours of memorization and being able to assimilate the contents in a gradual and simple way.





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*A syllabus adapted to your needs so you can choose the pace of study using just an electronic device and Internet”*

## Module 1. The Scientific Method Applied to Health Research. Bibliographic positioning of the research

- 1.1. Definition of the Question or Problem to be Solved
- 1.2. Bibliographic Positioning of the Question or Problem to be Solved
  - 1.2.1. Information Search
    - Strategies and Keywords Pubmed and Other Repositories of Scientific Articles
  - 1.2.2. Pubmed and Other Repositories of Scientific Articles
- 1.3. Treatment of Bibliographic Sources
- 1.4. Treatment of Documentary Sources
- 1.5. Advanced Bibliography Search
- 1.6. Generation of Reference Bases for Multiple Use
- 1.7. Bibliography Managers
- 1.8. Extraction of Metadata in Bibliographic Searches
- 1.9. Definition of the Scientific Methodology to be Followed
  - 1.9.1. Selection of the Necessary Tools
  - 1.9.2. Design of Positive and Negative Controls in an Investigation
- 1.10. Transnational Projects and Clinical Trials: Similarities and Differences

## Module 2. Generation of Working Groups: Collaborative Research

- 2.1. Definition of Working Groups
- 2.2. Formation of Multidisciplinary Teams
- 2.3. Optimal Distribution of Responsibilities
- 2.4. Leadership.
- 2.5. Control of Activities Achievement
- 2.6. Hospital Research Teams
  - 2.6.1. Clinical Research
  - 2.6.2. Basic Research
  - 2.6.3. Translational Research
- 2.7. Creation of Collaborative Networks for Health Research
- 2.8. New Spaces for Health Research
  - 2.8.1. Thematic Networks
- 2.9. Networked Biomedical Research Centers
- 2.10. Biobanks of Samples: International Collaborative Research

## Module 3. Generation of Research Projects

- 3.1. General Structure of a Project
- 3.2. Presentation of Background and Preliminary Data
- 3.3. Definition of the Hypothesis
- 3.4. Definition of General and Specific Objectives
- 3.5. Definition of the Type of Sample, Number and Variables to be Measured
- 3.6. Establishment of the Scientific Methodology
- 3.7. Exclusion/Inclusion Criteria in Projects with Human Samples
- 3.8. Establishment of the Specific Team: Balance and Expertise
- 3.9. Expectations: An Important Element that we Forget
- 3.10. Budget Generation: A Fine Tuning between the Needs and the Reality of the Call
- 3.11. Ethical Aspects

## Module 4. The Clinical Trial in Health Research

- 4.1. Types of Clinical Trials (CT)
  - 4.1.1. Clinical Trials Promoted by the Pharmaceutical Industry
  - 4.1.2. Independent Clinical Trials
  - 4.1.3. Drug Replacement
- 4.2. Phases of CE
- 4.3. Main Figures Involved in EC
- 4.4. Generation of Protocols
  - 4.4.1. Randomization and Masking
  - 4.4.2. Non-Inferiority Studies
- 4.5. Patient Information Sheet
- 4.6. Informed Consent
- 4.7. Good Clinical Practice Criteria
- 4.8. Drug Research Ethics Committee
- 4.9. Search for Funding for Clinical Trials
  - 4.9.1. Public. Main Spanish, European, Latin American and U.S. Agencies.
  - 4.9.2. Private. Main Pharmaceutical Companies

## Module 5. Project Financing

- 5.1. Search for Financing Opportunities
- 5.2. How to Adjust a Project to the Format of a Call for Proposals?
  - 5.2.1. Keys to Success
  - 5.2.2. Positioning, Preparation and Writing
- 5.3. Public Calls for Proposals. Main European and American Agencies
- 5.4. Specific European Calls for Proposals
  - 5.4.1. Horizon 2020 Projects
  - 5.4.2. Human Resources Mobility
  - 5.4.3. Madame Curie Program
- 5.5. Intercontinental Collaboration Calls, Opportunities for International Interaction
- 5.6. Calls for Collaboration with the United States
- 5.7. Strategy for Participation in International Projects
  - 5.7.1. How to Define a Strategy for Participation in International Consortia?
  - 5.7.2. Support and Assistance Structures
- 5.8. International Scientific Lobbying
  - 5.8.1. Access and Networking
- 5.9. Private Calls for Proposals
  - 5.9.1. Foundations and Funding Organizations for Health Research in Europe and the Americas
  - 5.9.2. Private Funding Calls for Proposals from U.S. Organizations
- 5.10. Securing the Loyalty of a Funding Source: Keys to a Lasting Financial Support

## Module 6. Statistics and R in Health Research

- 6.1. Biostatistics
  - 6.1.1. Introduction to The Scientific Method
  - 6.1.2. Population and Sample. Sampling Measures of Centralization
  - 6.1.3. Discrete Distributions and Continuous Distributions
  - 6.1.4. General Outline of Statistical Inference. Inference about a Normal Population Mean. Inference about a General Population Mean
  - 6.1.5. Introduction to Nonparametric Inference

- 6.2. Introduction to R
  - 6.2.1. Basic Features of the Program
  - 6.2.2. Main Object Types
  - 6.2.3. Simple Examples of Simulation and Statistical Inference
  - 6.2.4. Graphs
  - 6.2.5. Introduction to R Programming
- 6.3. Regression Methods with R
  - 6.3.1. Regression Models
  - 6.3.2. Variable Selection
  - 6.3.3. Model Diagnosis
  - 6.3.4. Treatment of Outliers
  - 6.3.5. Regression Analysis
- 6.4. Multivariate Analysis with R
  - 6.4.1. Description of Multivariate Data
  - 6.4.2. Multivariate Distributions
  - 6.4.3. Dimension Reduction
  - 6.4.4. Unsupervised Classification: Cluster Analysis
  - 6.4.5. Supervised Classification: Discriminant Analysis
- 6.5. Regression Methods for Research with R
  - 6.5.1. Generalized Linear Models (GLM): Poisson Regression and Negative Binomial Regression
  - 6.5.2. Generalized Linear Models (GLM): Logistic and Binomial Regressions
  - 6.5.3. Poisson and Negative Binomial Regression Inflated by Zeros
  - 6.5.4. Local Fits and Generalized Additive Models (GAMs)
  - 6.5.5. Generalized Mixed Models (GLMM) and Generalized Additive Mixed Models (GAMM)
- 6.6. Statistics Applied to Biomedical Research with R I
  - 6.6.1. Basic Notions of R. Variables and Objects in R. Data handling. Files Graphs
  - 6.6.2. Descriptive Statistics and Probability Functions
  - 6.6.3. Programming and Functions in R
  - 6.6.4. Contingency Table Analysis
  - 6.6.5. Basic Inference with Continuous Variables

- 6.7. Statistics Applied to Biomedical Research with R II
  - 6.7.1. Analysis of Variance
  - 6.7.2. Correlation Analysis
  - 6.7.3. Simple Linear Regression
  - 6.7.4. Multiple Linear Regression
  - 6.7.5. Logistic Regression
- 6.8. Statistics Applied to Biomedical Research with R III
  - 6.8.1. Confounding Variables and Interactions
  - 6.8.2. Construction of a Logistic Regression Model
  - 6.8.3. Survival Analysis
  - 6.8.4. Cox Regression
  - 6.8.5. Predictive Models. ROC Curve Analysis
- 6.9. Statistical Data Mining Techniques with R I
  - 6.9.1. Introduction. Data Mining Supervised and Unsupervised Learning. Predictive Models. Classification and Regression
  - 6.9.2. Descriptive Analysis. Data Pre-Processing
  - 6.9.3. Principal Component Analysis (PCA)
  - 6.9.4. Cluster Analysis. Hierarchical Methods. K-Means
- 6.10. Statistical Data Mining Techniques with R II
  - 6.10.1. Model Assessment Measures. Predictive Ability Measures. ROC Curves
  - 6.10.2. Models Assessment Techniques. Cross-Validation. Bootstrap Samples
  - 6.10.3. Tree-Based Methods (CART)
  - 6.10.4. Support Vector Machines (SVM)
  - 6.10.5. Random Forest (RF) and Neural Networks (NN)

## Module 7. Graphical Representations of Data in Health Research and Other Advanced Analysis

- 7.1. Types of Graphs
- 7.2. Survival Analysis
- 7.3. ROC Curves
- 7.4. Multivariate Analysis (Types of Multiple Regression)
- 7.5. Binary Regression Models
- 7.6. Massive Data Analysis
- 7.7. Dimensionality Reduction Methods
- 7.8. Comparison of Methods: PCA, PPCA and KPCA
- 7.9. T-SNE (T-Distributed Stochastic Neighbor Embedding)
- 7.10. UMAP (Uniform Manifold Approximation and Projection)

## Module 8. Dissemination of Results I, Reports, Memos and Scientific Articles

- 8.1. Generating a Scientific Report or Memory of a Project
  - 8.1.1. Optimal Approach to the Discussion
  - 8.1.2. Presentation of the Limitations
- 8.2. Generation of a Scientific Article: How to Write a Paper on the Basis of the Data Obtained?
  - 8.2.1. General Structure
  - 8.2.2. Where Does the Paper Go?
- 8.3. Where to Start?
  - 8.3.1. Adequate Representation of the Results
- 8.4. Introduction: The Mistake of Starting with this Section.
- 8.5. Discussion: The Cusp Moment
- 8.6. The Description of Materials and Methods: The Guaranteed Reproducibility
- 8.7. Choice of the Journal where the Paper is to be submitted
  - 8.7.1. Choice Strategy
  - 8.7.2. Priority List
- 8.8. Adaptation of the Manuscript to the Different Formats
- 8.9. The "Cover Letter": Concise Presentation of the Study to the Editor
- 8.10. How to Respond to Reviewers' Doubts? The Rebuttal Letter



## Module 9. Dissemination of Results II, Symposiums, Congresses, Dissemination to Society

- 9.1. Presentation of Results at Congresses and Symposia
  - 9.2.1. How is a Poster Generated?
  - 9.2.2. Data Representation
  - 9.2.3. Focusing the Message
- 9.3. Short Communications
  - 9.3.1. Data Representation for Short Communications
  - 9.3.2. Focusing the Message
- 9.4. The Plenary Lecture: Notes on How to Keep the Attention of the Specialized Audience for More than 20 Minutes
- 9.5. Dissemination to the General Public
  - 9.5.1. Need Vs. Opportunity
  - 9.5.2. Use of References
- 9.6. Use of Social Networks for the Dissemination of Results
- 9.7. How to Adapt Scientific Data to the Popular Language?
- 9.8. Hints for Summarizing a Scientific Paper in a Few Characters
  - 9.8.1. Instant Dissemination via Twitter
- 9.9. How to Turn a Scientific Paper into a Dissemination Material?
  - 9.9.1. Podcast
  - 9.9.2. YouTube
  - 9.9.3. Tik Tok
  - 9.9.4. Comics
- 9.10. Popular Literature
  - 9.10.1. Columns
  - 9.10.2. Books

## Module 10. Protection and Transfer of Results

- 10.1. Protection of Results: General Aspects
- 10.2. Valorization of the Results of a Research Project
- 10.3. Patents: Pros and Cons
- 10.4. Other Forms of Protection of Results
- 10.5. Transfer of Results to Clinical Practice
- 10.6. Transfer of Results to Industry
- 10.7. The Technology Transfer Contract
- 10.8. Trade Secrets
- 10.9. Spin-Off Company Generation Based on Research Projects
- 10.10. Search of Investment Opportunities in Spin-Off Companies



*An academic opportunity for professionals like you who are looking for enhancing their skills in the theoretical-practical field of the research”*

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.





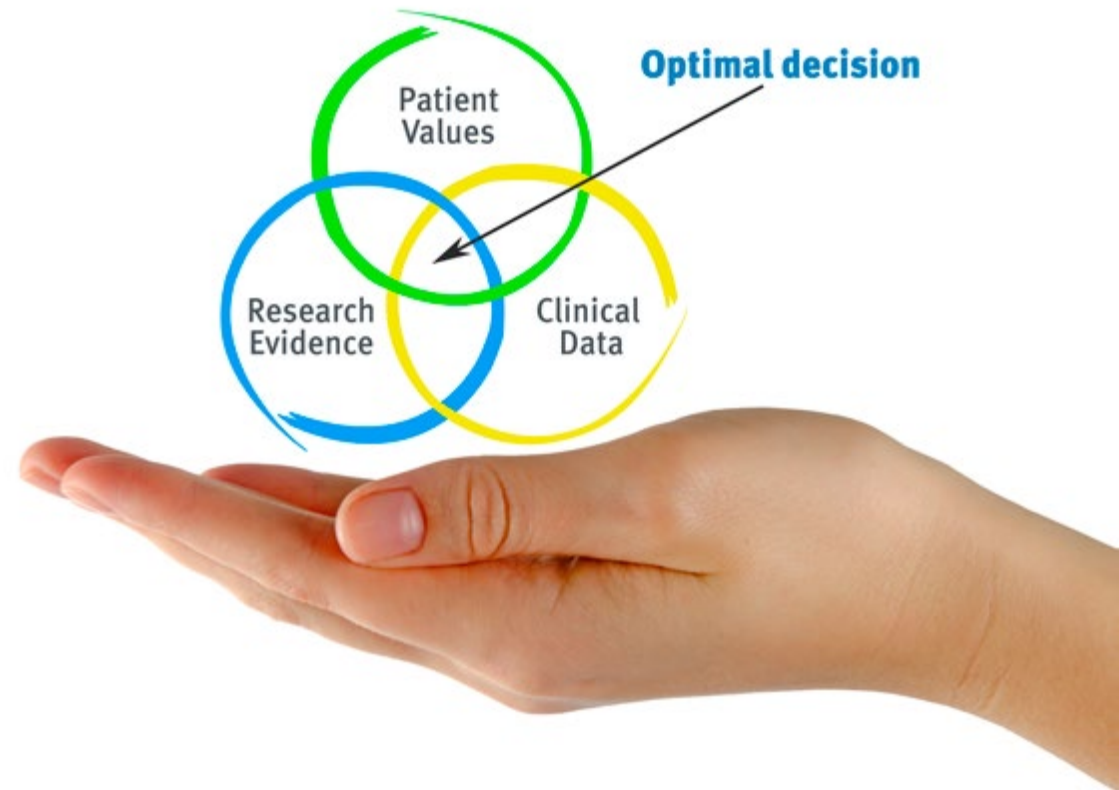
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## 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. 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.

“

*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

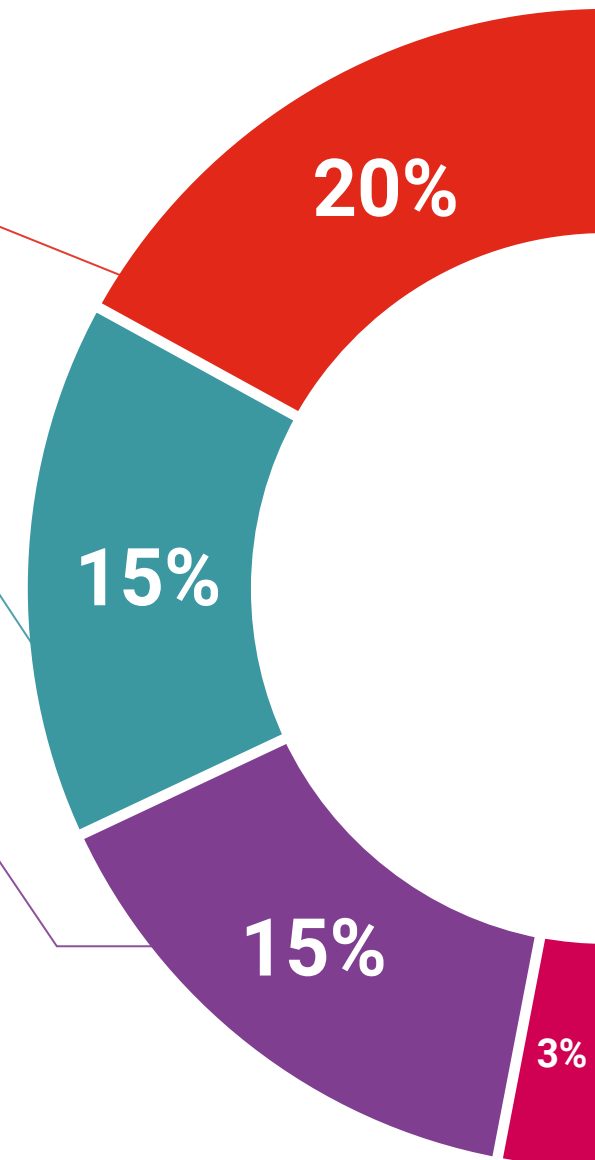
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

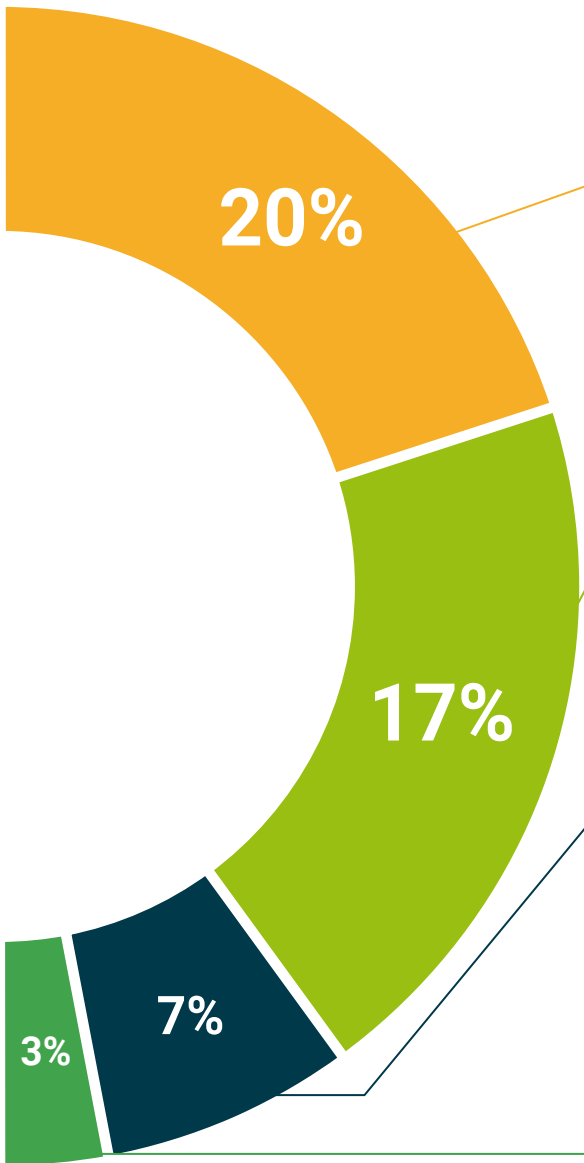


#### Additional Reading

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.







#### 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.



# 07 Certificate

The Professional Master's Degree in Medical Research guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree 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"*

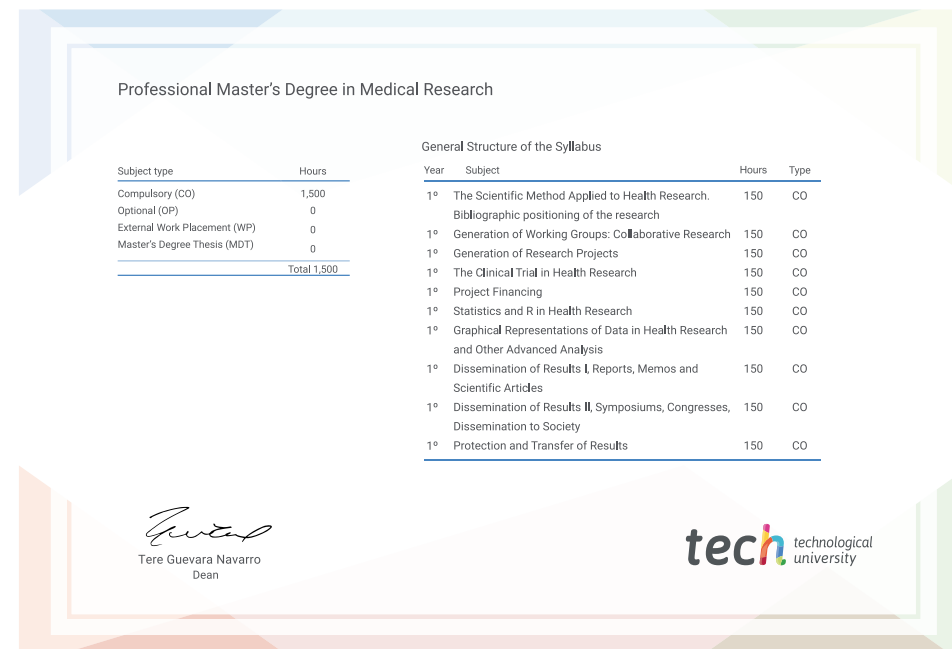
This **Professional Master's Degree in Medical Research** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **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 Medical Research**

Official N° of hours: **1,500 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.



## Professional Master's Degree Medical Research

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

# Professional Master's Degree

## Medical Research

