

# Professional Master's Degree Sports Medical Research

Endorsed by the NBA





## Professional Master's Degree Sports Medical Research

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/sports-science/professional-master-degree/master-sports-medical-research](http://www.techtute.com/us/sports-science/professional-master-degree/master-sports-medical-research)

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# 01

# Introduction

The relationship between science and technology is increasingly applicable to the world of sports. In this field, advances have led to better results in sporting events, while motivating athletes to excel. Similarly, scientific trials in this field have solved problems specific to physical activity and sports associated with the biological and social branches. However, much remains to be discovered about the influence of nutritional supplements and the individual's immune response while performing intense and prolonged exercise, i.e., athlete performance studies. For this reason, the sports labor market requires exhaustive studies to investigate correlational and experimental research in this field. TECH offers a 100% online program that delves, precisely, into the scientific methods applied to testing, in order to provide instruction for the correct research development.





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*Thanks to this Professional Master's Degree you will obtain all the knowledge required to develop a solid scientific base that provides solutions to the sports discipline”*

Graduates of Physical Activity and Sport Sciences and other professionals in the sector interested in qualitative and quantitative studies can dedicate themselves to the investigation of the scientific factors that influence this field. However, in order to carry them out, specialists must have a perfect command of biomechanics, physiology and psychology and, in addition, understand the value of structuring the research project correctly. This will offer advantages not only to experts, but also to athletes, as scientists in this field promote their recovery, among other things, through psychological preparation and diets.

Given the limited academic options available in this field, TECH has developed a complete and rigorous program in research project generation, financing, statistics and R in health research, as well as result distribution through reports, memoirs and scientific articles. It is a program that has the quality endorsement of expert teachers who, in addition to being involved in the development of the contents, will be the ones to impart the knowledge to students.

In addition, TECH has incorporated 1,500 hours of audiovisual and dynamic materials that make the program an enriching experience through a digital medium with video summaries, activities and the simulation of real cases. All this, with the objective of updating specialists' skills so that they are prepared to face real practice. At the same time, TECH has integrated the innovative Relearning methodology, which exempts professionals from long hours of study, which, in addition to the 100% modality, allows them to be trained in a gradual, constant and simple way with all the guarantees.

This **Professional Master's Degree in Sports 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 self-assessment can be used to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ The availability of access to content from any fixed or portable device with an Internet connection



*Learn all the key elements to promote clinical trials on the performance of athletes and study their biological and psychological capabilities”*

“

*Update your skills to stay at the forefront of the group of professionals involved in collaborative research projects in the sports sector”*

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

Its multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive education programmed to learn in real situations.

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

*Stand out in your sector by mastering statistics and R in health research thanks to the theoretical and practical contents offered by TECH.*

*Grow in a discipline that requires highly qualified professionals, so that you can be one of them.*



# 02 Objectives

The Professional Master's Degree in Medical Research in Sport has as its main objective to update the knowledge of health professionals and other specialists interested in scientific study. This program only lasts 12 months, so that students have the opportunity to benefit from the dynamism of a learning process based on audiovisual materials and practical exercises. This way, professionals will delve into collaborative research, clinical trials in health, statistics and R in health research, as well as the dissemination of results and their graphic representations, among many other issues. In addition, TECH has incorporated modern pedagogical tools to facilitate monitoring and to allow students to adapt the pace of study to their needs.





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*Still not familiar with the advantages of Big Data in sports competition research? Investigate results to draw conclusions in this field”*



## General Objectives

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- ◆ Posing adequately the 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
- ◆ Search for financing
- ◆ Master the necessary data analysis tools
- ◆ Write scientific articles (Papers) according to the target journals
- ◆ Generate posters
- ◆ Look for dissemination tools to the non-specialized public
- ◆ Protect data
- ◆ Transfer knowledge generated to industry or the clinic
- ◆ Mapping the use of artificial intelligence and massive data analytics
- ◆ Interact with examples of successful projects



## 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 a health research
- ◆ Learn the correct way to ask a question and the methodology to follow 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
- ◆ 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

**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**

- ◆ 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 the 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
- ◆ Know in depth the possibilities for the creation of new enterprises

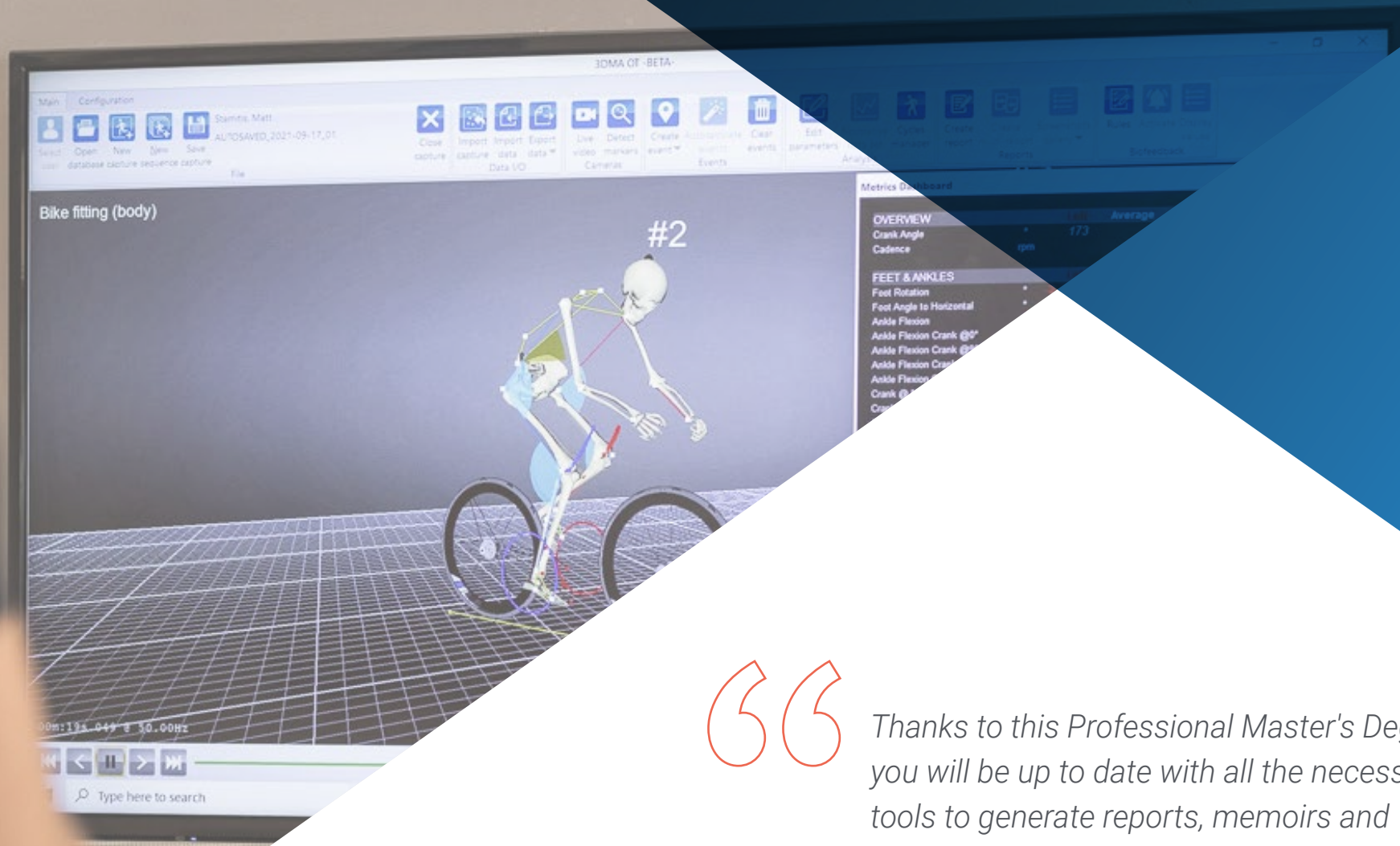


*Achieve your objectives thanks to efficient pedagogical tools and base your medical performance on the most up-to-date health knowledge”*

# 03

## Skills

By taking this program, specialists will be equipped with knowledge that will propel their professional career into health-focused sports research. TECH has collaborated with teachers versed in these studies who have poured all their experience into the syllabus. In this way, specialists will find an exhaustive review of the bibliographic use of health research and the evaluation of the results of scientific research. All this, so that the students enrolled can handle the new methods of dissemination of scientific information in the field of sport.



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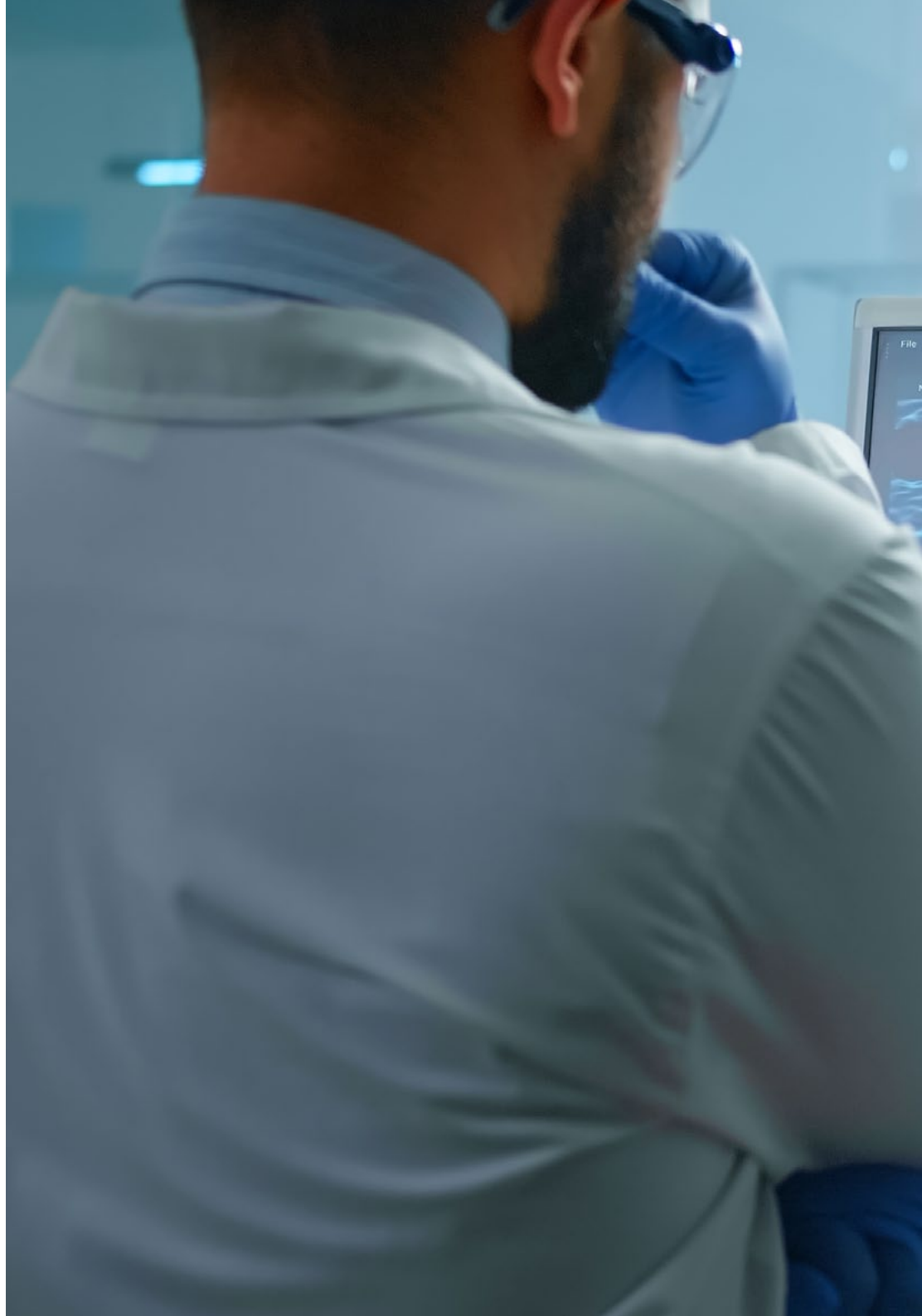
*Thanks to this Professional Master's Degree, you will be up to date with all the necessary tools to generate reports, memoirs and articles, and you will be able to collaborate with specialized magazines”*

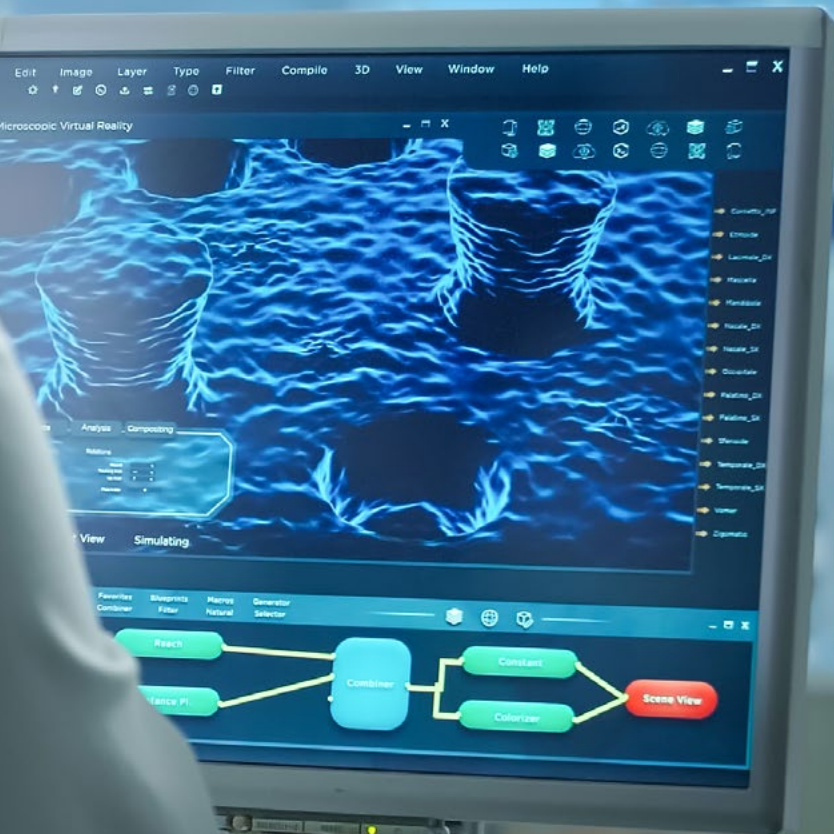


## General Skills

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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
- ◆ Generate specific project formats for funding in different calls for proposals
- ◆ 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 adequate protection and transfer of generated data
- ◆ 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
- ◆ Recognize the main figures involved in 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
- ◆ Learning how to turn a scientific paper into dissemination material
- ◆ Value the results of a research project



*Do you want to delve into popular science and new methods of documentation? With TECH you can achieve this in as little as 12 months"*

# 04

# Course Management

In its line of academic rigor, TECH has a group of experts who have their own research projects and that have been developing over the years in this field. This way, students will not only receive purely theoretical knowledge but, through the simulation of cases, they will be able to obtain the key elements of the teachers' experience. In addition, they will have a direct communication life through which they will be able to contact the experts to solve all questions related to the subject.







## Management



### Dr. López-Collazo, Eduardo

- ◆ Head of the Department of Inmune Response and Infectious Diseases at IdiPAZ
- ◆ Head of the Department of Inmune 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 of the Urgent and Emergent Pathology Research Group of the Research Institute of the Hospital Universitario La Paz
- ◆ Secretary of the Teaching Commission of the La Paz University Hospital Research Institute
- ◆ Assistant of the Emergency Department of the Hospital Universitario de la Paz
- ◆ Assistant of Internal Medicine/Infectious Diseases of the High Level Isolation Unit of the Hospital Universitario La Paz-Hospital Carlos III
- ◆ Internist at Hospital Olympia Quiró

### Mr. Arnedo Abade, Luis

- ◆ 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. del Fresno, Carlos**

- ♦ "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 Borrell" 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

**Dr. Pascual Iglesias, Alejandro**

- ♦ Bioinformatics Platform Coordinator, La Paz Hospital
- ♦ Advisor to the COVID-19 Expert Committee of Extremadura
- ♦ Researcher in Eduardo Lopez's innate immune response research group
- ♦ Collazo, Health Research Institute, La Paz University Hospital
- ♦ 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. 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
- ♦ D. in Psychology from the Complutense University of Madrid Degree in Psychology from the Complutense University of Madrid

# 05

## Structure and Content

The content of this Professional Master's Degree in Sports Medical Research has been carefully developed by TECH with the support of a team of doctors and research experts. At the same time, TECH has incorporated the Relearning pedagogical system to facilitate students' studies. This way, they will not have to invest long and tiresome hours of study, but will assimilate the contents in a gradual and simple way. In addition, TECH has integrated audiovisual materials in various formats into the degree program so that students can enjoy online teaching without sacrificing the rigor and dynamism of the course.





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*A syllabus designed for specialists like you, who are looking to perfect their skills to be much more competitive in today's workplace”*

## 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
    - 1.2.1.1. Strategies and Keywords
  - 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. Translational 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

## 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 CE5
- 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 BORRAR
- 4.7. Good Clinical Practice Criteria
- 4.8. Drug Research Ethics Committee BORRAR
- 4.9. Search for Funding for Clinical Trials
  - 4.9.1. Public. Main 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. The International Scientific Lobbies
  - 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 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. Principal Component Analysis (PCA)
  - 6.9.5. 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, memoirs 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. The Introduction: The Mistake of Starting with this Section
- 8.5. The 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: Symposia, congresses, dissemination to society

- 9.1. Presentation of Results at Congresses and Symposia
  - 9.1.1. How is a *Poster* Generated?
  - 9.1.2. Data Representation
  - 9.1.3. Focusing the Message
- 9.2. Short Communications
  - 9.2.1. Data Representation for Short Communications
  - 9.2.2. Focusing the Message
- 9.3. The Plenary Lecture: Notes on How to Keep the Attention of the Specialized Audience for More than 20 Minutes
- 9.4. Dissemination to the General Public
  - 9.4.1. Need Vs. Opportunity
  - 9.4.2. Use of References
- 9.5. Use of Social Networks for the Dissemination of Results
- 9.6. How to Adapt Scientific Data to the Popular Language?
- 9.7. Hints for Summarizing a Scientific Paper in a Few Characters
  - 9.7.1. Instant Dissemination via Twitter
- 9.8. How to turn a Scientific Paper into a Popularization Material
  - 9.8.1. Podcast
  - 9.8.2. YouTube Videos
  - 9.8.3. Tik Tok
  - 9.8.4. Comics
- 9.9. Popular Literature
  - 9.9.1. Columns
  - 9.9.2. 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. Generation of *SpinOff* Companies from a Research Project
- 10.10. Search for Investment Opportunities in *SpinOff* Companies



*Don't wait any longer, enroll now to be part of the Sports Medical Research, thanks to a 100% online program"*

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"*

### Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.



*At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world"*



*You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.*



### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

**“** Our program prepares you to face new challenges in uncertain environments and achieve success in your career”

*The student will learn to solve complex situations in real business environments through collaborative activities and real cases.*

The case method is the most widely used learning system in the best faculties in the world. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question we face in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

## Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

*In 2019, we obtained the best learning results of all online universities in the world.*

At TECH, you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



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.

With this methodology, we have trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, markets, and financial instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*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.*

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.



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.



### 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 in future difficult decisions.



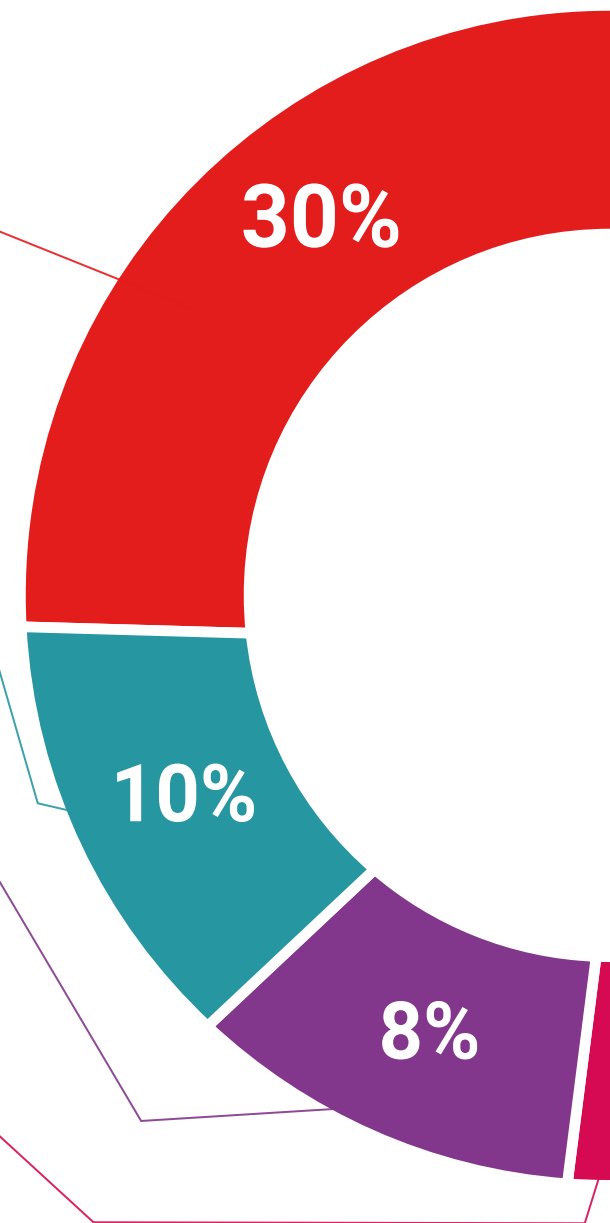
### Practising Skills and Abilities

They will carry out activities to develop specific competencies and skills in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.

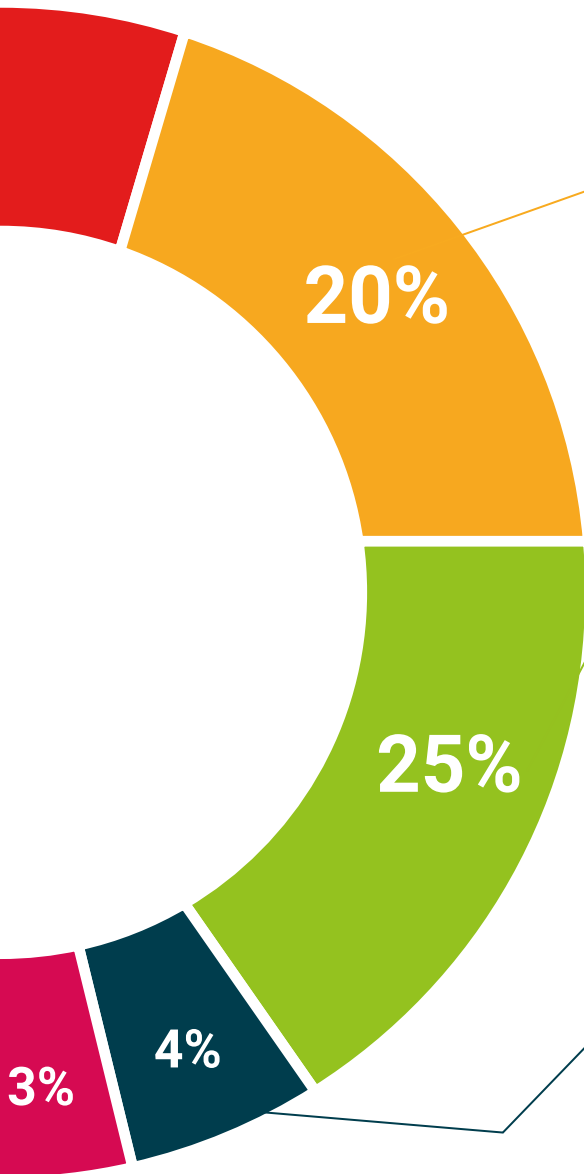


### Additional Reading

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.







#### Case Studies

Students will complete a selection of the best case studies chosen specifically for this situation. Cases that are presented, analyzed, and supervised by the best specialists in the world.



#### 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".



#### 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.



# 07 Certificate

The Professional Master's Degree in Sports Medical Research guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree diploma issued by TECH Global University.



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

This program will allow you to obtain your **Professional Master's Degree diploma in Sports Medical Research** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra (*official bulletin*). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

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

Title: **Professional Master's Degree in Sports Medical Research**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**



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

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knowledge present quality  
development language  
virtual classroom



**Professional Master's  
Degree**  
Sports Medical Research

- » Modality: online
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- » Credits: 60 ECTS
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- » Exams: online

# Professional Master's Degree Sports Medical Research

Endorsed by the NBA



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