

Master's Degree Sports Medical Research

Endorsed by the NBA





Master's Degree Sports Medical Research

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

Website: www.techtute.com/us/sports-science/master-degree/master-sports-medical-research

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01

Introduction to the Program

The advancement of science has transformed the way athlete performance and health are approached. Sports Medical Research is crucial for preventing injuries, optimizing training, and improving recovery. According to the World Health Organization (WHO), physical inactivity is one of the leading risk factors for non-communicable diseases, highlighting the need for evidence-based strategies to promote safe and efficient sports practices. In this context, innovation and scientific analysis are essential for developing new methodologies. For this reason, TECH offers a 100% online qualification designed to provide the most advanced tools in research applied to the sports field.





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Explore innovative methodologies in medical research applied to sport and expand your opportunities in the healthcare and sports sectors”

Sports Medical Research plays a crucial role in the evolution of training practices, injury prevention, and performance optimization. In an environment where physical demands and competitiveness reach ever-higher levels, having knowledge based on scientific evidence is essential. Biomedical analysis, exercise physiology, and the application of advanced technologies have enabled the development of more effective strategies for athlete health and performance, consolidating the importance of this field within sports sciences.

This program offers a unique opportunity to acquire specialized skills in an area with growing demand in the sports sector. Delving into the evaluation of physiological parameters, applied biomechanics, and sports nutrition can boost your professional career and extend your impact in the field. The combination of scientific knowledge and technological tools provides competitive advantages in both research and clinical and sports interventions, facilitating access to new job opportunities in high-performance centers, academic institutions, and professional teams.

Thanks to its 100% online methodology, this program adapts to the current needs of the sector, allowing access to cutting-edge content without geographical or scheduling restrictions. The flexibility of this model facilitates balancing work and personal life, ensuring effective learning through multimedia resources, practical cases, and guidance from specialists in the field. Moreover, the use of interactive technologies and state-of-the-art virtual environments enhances the academic experience, offering a dynamic and innovative approach.

TECH has designed this qualification with a comprehensive and updated approach, responding to the demands of the sports market and applied medical research.

This **Master's Degree in Sports Medical Research** contains the most complete and up-to-date university program on the market. Its most notable features are:

- ♦ The development of practical case studies presented by experts in Sport Medicine
- ♦ 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
- ♦ Special emphasis on innovative methodologies in Sports Medicine
- ♦ 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



Master the analysis of biomedical data with advanced technological tools and optimize athlete performance and recovery"

“

Access cutting-edge technological tools to assess, prevent, and improve physical performance at different levels of competition”

The faculty includes professionals from the field of Sports Medicine, who bring their practical experience to this program, as well as renowned specialists from leading societies and prestigious 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 an immersive learning experience designed to prepare for real-life situations.

This program is designed around Problem-Based Learning, whereby the student 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.

Drive innovation in sports medicine through evidence-based strategies and contribute to the development of new therapies.

Connect with international experts in health research and expand your network within health and sports institutions.



02

Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs, available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it has a huge faculty of more than 6,000 professors of the highest international prestige.



“

Study at the largest online university in the world and ensure your professional success. The future begins at TECH”

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.



The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.



Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.



The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.



03 Syllabus

Sport and Medicine have evolved together, giving rise to a discipline where research is key to developing innovative strategies in health and performance. From genetic analysis to applied artificial intelligence, new scientific approaches allow for a better understanding of the body's response to exertion and the design of more effective interventions.

As technology redefines the limits of human performance, the need for specialists in this field becomes indispensable. In this context, TECH Global University drives an academic program that combines scientific rigor and advanced technological tools, preparing professionals to face the challenges of the future of Sports Medicine.



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Lead high-impact projects in health centers, biomedical laboratories, and sports institutions with a science-based approach”

Module 1. The Scientific Method Applied to Health Research. Bibliographic Positioning of 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 Databases for Multiple Use
- 1.7. Bibliography Management Tools
- 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 Research
- 1.10. Translational Projects and Clinical Trials: Similarities and Differences

Module 2. Generation of Work Groups: Collaborative Research

- 2.1. Definition of Work Groups
- 2.2. Formation of Multidisciplinary Teams
- 2.3. Optimal Distribution of Responsibilities
- 2.4. Leadership
- 2.5. Control of Activity 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. Biomedical Research Centers in Network
- 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 Often Overlooked
- 3.10. Generation of the Budget: Fine-Tuning Between Needs and the Realities of the Call for Proposals

Module 4. Clinical Trials 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 Trials
- 4.2. Phases of Clinical Trials
- 4.3. Key Figures Involved in Clinical Trials
- 4.4. Generation of Protocols
 - 4.4.1. Randomization and Blinding
 - 4.4.2. Non-Inferiority Studies
- 4.5. Patient Information Sheet
- 4.6. Good Clinical Practice Criteria
- 4.7. Funding for Clinical Trials
 - 4.7.1. Public Funding. Key European, Latin American and U.S. Agencies.
 - 4.7.2. Private Funding. Major Pharmaceutical Companies

Module 5. Project Funding

- 5.1. Searching for Funding Opportunities
- 5.2. How to Adjust a Project to the Format of a Call for Proposals?
 - 5.2.1. Keys to Achieving Success
 - 5.2.2. Positioning, Preparation, and Writing
- 5.3. Public Calls for Proposals. Key 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. Collaborative Calls for Proposals 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 Lobbies
 - 5.8.1. Access and Networking
- 5.9. Private Calls for Proposals
 - 5.9.1. Foundations and Organizations Funding Health Research in Europe and America
 - 5.9.2. Private Funding Calls from U.S. Organizations
- 5.10. Securing a Funding Source: Keys to Sustaining Long-Term 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 and Continuous Distributions
 - 6.1.4. General Scheme of Statistical Inference. Inference about a Normal Population Mean. Inference about a General Population Mean
 - 6.1.5. Introduction to Non-Parametric Inference

- 6.2. Introduction to R
 - 6.2.1. Basic Features of the Program
 - 6.2.2. Main Types of Objects
 - 6.2.3. Simple Examples of Simulation and Statistical Inference
 - 6.2.4. Graphics
 - 6.2.5. Introduction to Programming in R
- 6.3. Regression Methods with R
 - 6.3.1. Regression Models
 - 6.3.2. Variable Selection
 - 6.3.3. Model Diagnosis
 - 6.3.4. Handling 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. Dimensionality 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. Zero-Inflated Poisson and Negative Binomial Regression
 - 6.5.4. Local Adjustments and Generalized Additive Models (GAM)
 - 6.5.5. Generalized Linear Mixed Models (GLMM) and Generalized Additive Mixed Models (GAMM)
- 6.6. Applied Statistics in Biomedical Research with R I
 - 6.6.1. Basic Concepts in R: Variables, Objects, and Data Management. Files. Graphics
 - 6.6.2. Descriptive Statistics and Probability Functions
 - 6.6.3. Programming and Functions in R
 - 6.6.4. Analysis of Contingency Tables
 - 6.6.5. Basic Inference with Continuous Variables

- 6.7. Applied Statistics in 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. Applied Statistics in Biomedical Research with R III
 - 6.8.1. Confounding Variables and Interactions
 - 6.8.2. Building 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 Techniques for Data Mining 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 Techniques for Data Mining with R II
 - 6.10.1. Model Evaluation Metrics. Predictive Capacity. ROC Curves
 - 6.10.2. Model Evaluation Techniques. Cross-Validation. Bootstrap Sampling
 - 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 Analyses

- 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. Analysis of Big Data
- 7.7. Methods for Dimensionality Reduction
- 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, Theses, and Scientific Articles

- 8.1. Generation of a Scientific Report or Thesis for a Project
 - 8.1.1. Optimal Approach to the Discussion
 - 8.1.2. Presentation of Limitations
- 8.2. Generation of a Scientific Article: How to Write a Paper from the Data Collected?
 - 8.2.1. General Structure
 - 8.2.2. Where Should the Paper Be Submitted?
- 8.3. Where to Start?
 - 8.3.1. Appropriate Representation of Results
- 8.4. The Introduction: The Mistake of Starting with this Section.
- 8.5. The Discussion: The Pivotal Moment
- 8.6. The Description of Materials and Methods: Ensuring Reproducibility
- 8.7. Choosing the Journal to Submit the Paper
 - 8.7.1. Selection Strategy
 - 8.7.2. Priority List
- 8.8. Adapting the Manuscript to Different Formats
- 8.9. The Cover Letter: A Concise Presentation of the Study to the Editor
- 8.10. How to Respond to Reviewers' Questions? The Rebuttal Letter

Module 9. Dissemination of Results II: Symposia, Conferences, and Outreach to Society

- 9.1. Presenting Results at Conferences and Symposia
 - 9.1.1. How to Create a Poster?
 - 9.1.2. Representation of Data
 - 9.1.3. Focusing the Message
- 9.2. Short Presentations
 - 9.2.1. Data Representation for Short Presentations
 - 9.2.2. Focusing the Message
- 9.3. Plenary Lectures: Tips for Keeping the Specialized Audience's Attention for More Than 20 Minutes
- 9.4. Outreach to the General Public
 - 9.4.1. Need vs. Opportunity
 - 9.4.2. Use of References
- 9.5. Use of Social Media for Dissemination of Results
- 9.6. How to Adapt Scientific Data to Popular Language?
- 9.7. Tips 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 Outreach Material
 - 9.8.1. Podcast
 - 9.8.2. YouTube Videos
 - 9.8.3. TikTok
 - 9.8.4. Comics
- 9.9. Popular Science 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. Valuation of Research Project Results
- 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. Technology Transfer Agreements
- 10.8. Industrial Secrets
- 10.9. Generation of Spin-Off Companies from a Research Project
- 10.10. Searching for Investment Opportunities in Spin-Off Companies

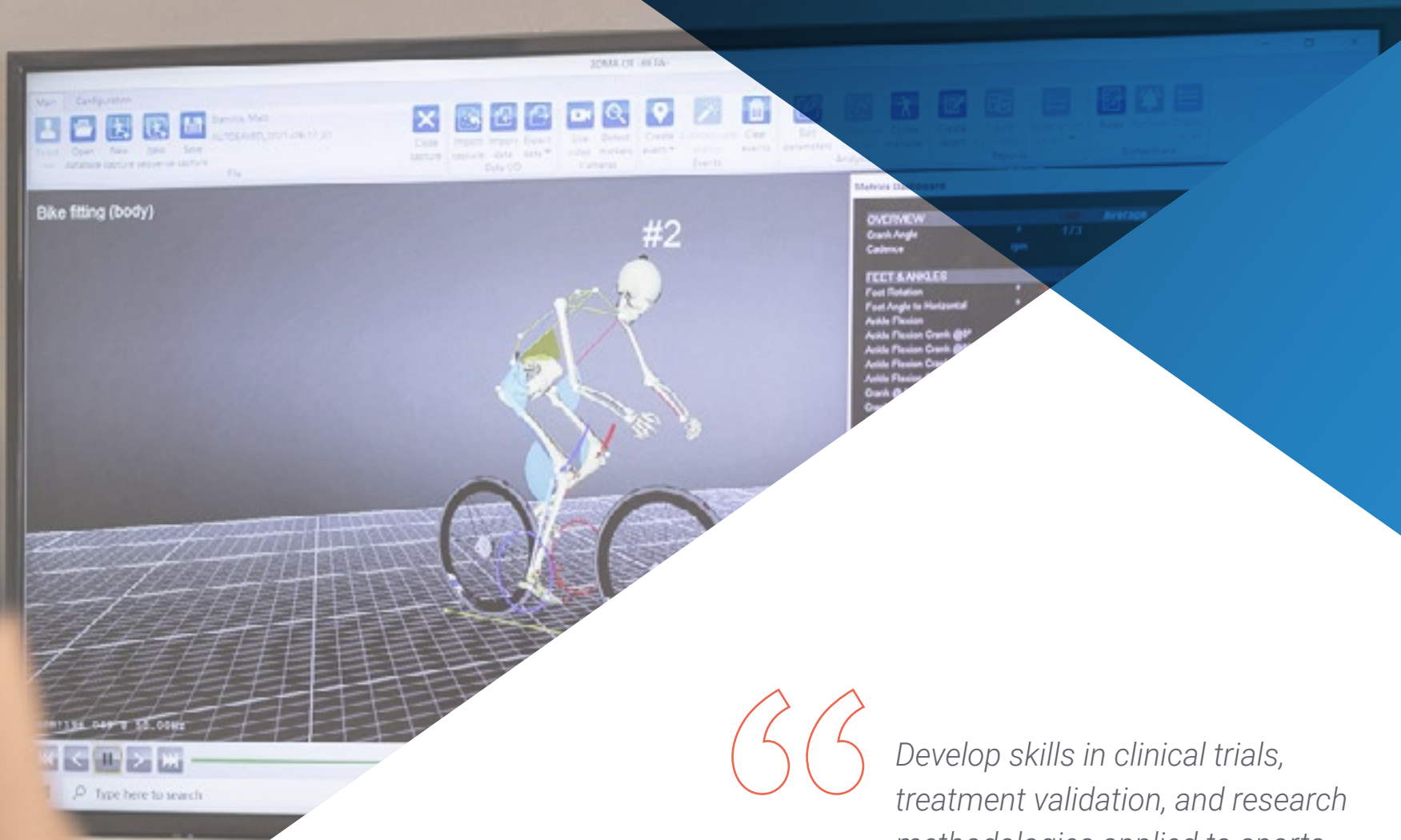


*Study in a 100% online format
with access to updated content
and no restrictions on schedule
or geographic location"*

04

Teaching Objectives

This program aims to train specialists in Sports Medical Research, combining scientific knowledge with cutting-edge technological tools. It covers everything from physiological and biomechanical assessment to biomarker analysis and performance optimization. Additionally, it focuses on the development of innovative methodologies for injury prevention and treatment, integrating Artificial Intelligence and Big Data into decision-making. In this way, graduates will be equipped to generate evidence-based solutions, contributing to the advancement of the sector and meeting the growing demands of modern sports medicine.

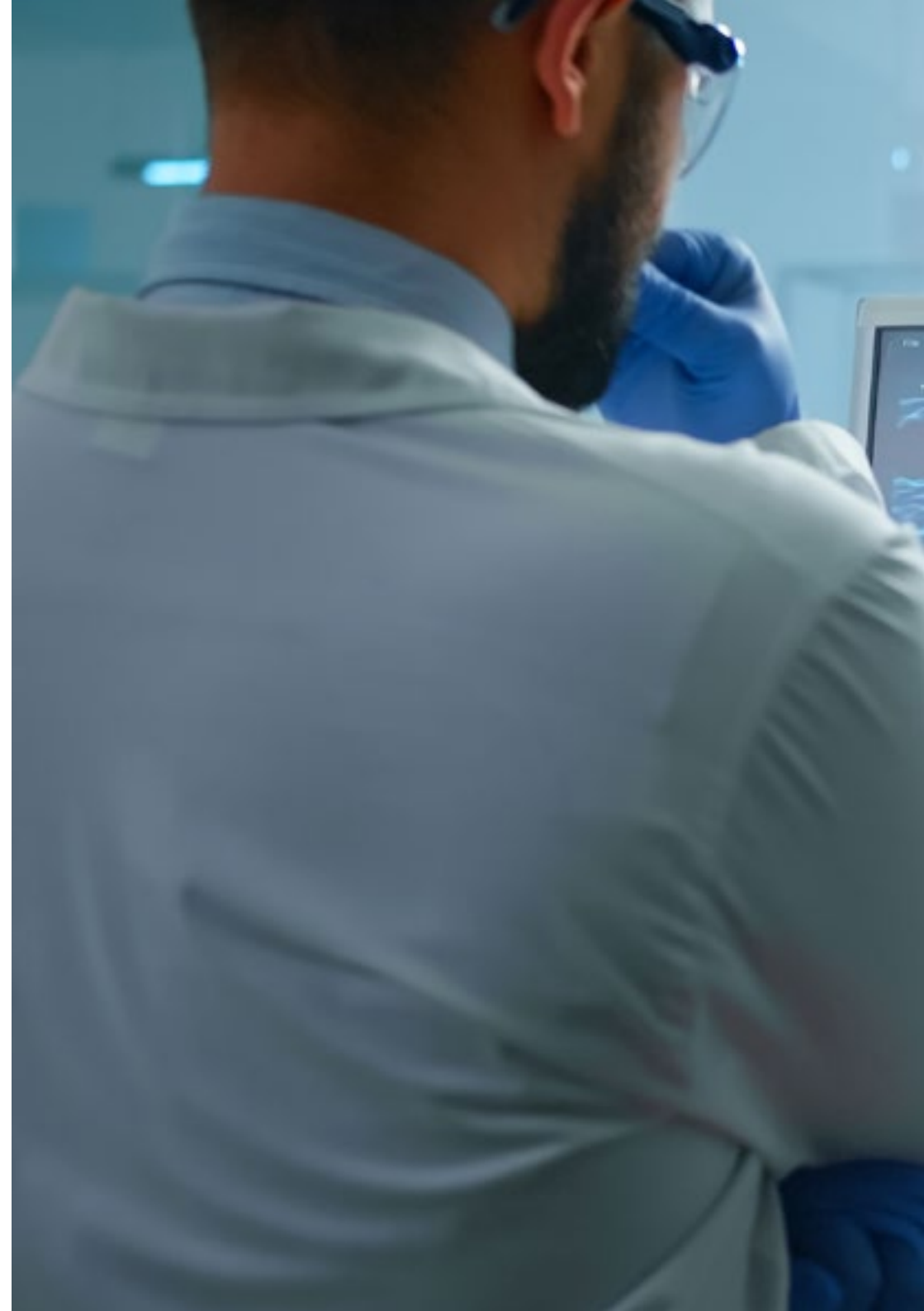


“Develop skills in clinical trials, treatment validation, and research methodologies applied to sports medicine”



General Objectives

- ♦ Acquire advanced knowledge in Sports Medical Research and its impact on health and performance
- ♦ Develop skills in the analysis of biomarkers and physiological parameters for evaluating physical condition and injury prevention
- ♦ Apply scientific methodologies for generating studies in sports medicine, integrating statistical analysis tools and biotechnology
- ♦ Deepen understanding of Artificial Intelligence and Big Data for optimizing therapeutic and recovery strategies
- ♦ Explore the role of genetics and epigenetics in exercise adaptation and the personalization of training
- ♦ Understand the effects of nutrition and supplementation on performance enhancement and recovery
- ♦ Evaluate the impact of new technologies, such as virtual reality and robotics, in the rehabilitation and training of athletes
- ♦ Master the principles of advanced biomechanics for optimizing sports movements and reducing injury risk
- ♦ Analyze the role of regenerative medicine in tissue recovery and prolonging athletic career longevity
- ♦ Integrate knowledge in physiology, pharmacology, and neuroscience for a holistic approach to sports medicine research and application





Specific Objectives

Module 1. The Scientific Method Applied to Health Research. Bibliographic Positioning of Research

- ♦ Understand the principles of the scientific method and its application in health research
- ♦ Develop skills for searching and critically analyzing scientific literature
- ♦ Apply tools for managing and organizing bibliographic references
- ♦ Develop a solid theoretical framework to support research projects

Module 2. Generation of Work Groups: Collaborative Research

- ♦ Identify strategies for the formation and management of research teams
- ♦ Foster effective communication in interdisciplinary scientific projects
- ♦ Apply methodologies for coordinating and planning collaborative research
- ♦ Develop skills for conflict management within work teams

Module 3. Generation of Research Projects

- ♦ Design research projects based on relevant health issues
- ♦ Apply methodologies for formulating hypotheses and study objectives
- ♦ Identify resources and strategies for efficient project planning
- ♦ Evaluate the feasibility and potential impact of research

Module 4. Clinical Trials in Health Research

- ♦ Understand the phases and methodological design of a clinical trial
- ♦ Analyze the ethical and regulatory aspects of conducting clinical trials
- ♦ Apply criteria for selecting candidates and collecting data
- ♦ Evaluate the validity and reliability of results obtained in clinical studies



Module 5. Project Funding

- ♦ Identify funding sources for health research
- ♦ Develop strategies for creating successful funding proposals
- ♦ Manage budgets and resources in research projects
- ♦ Apply best practices in the administration of research funds

Module 6. Statistics and R in Health Research

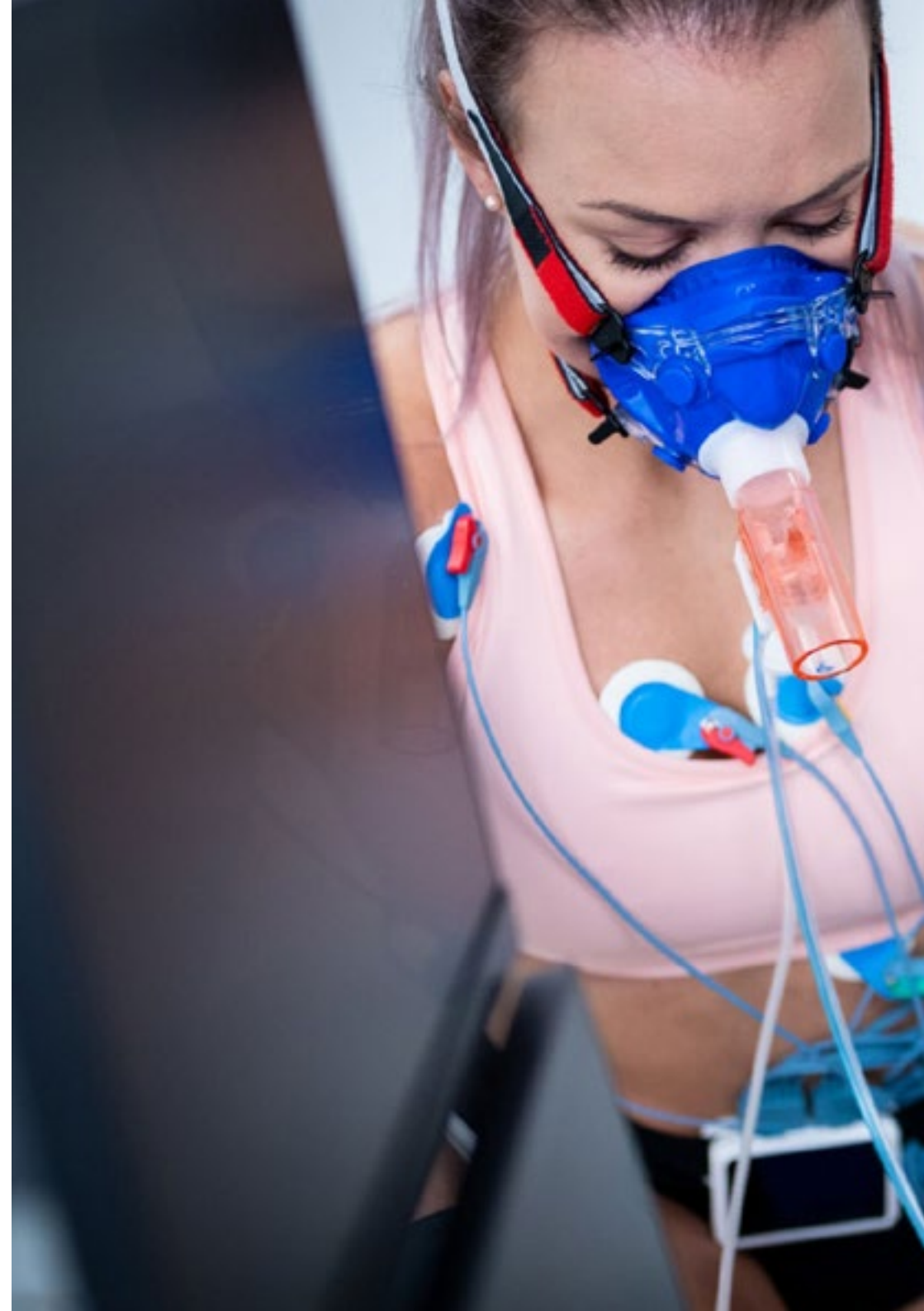
- ♦ Apply statistical techniques in the analysis of health data
- ♦ Use the R software for processing and modeling scientific data
- ♦ Interpret statistical results for decision-making in research
- ♦ Evaluate the quality and reliability of statistical analyses in health studies

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

- ♦ Develop skills in visualizing scientific data using advanced graphs
- ♦ Apply graphical representation techniques to improve the understanding of results
- ♦ Use computational tools for designing scientific figures and diagrams
- ♦ Evaluate the effectiveness of different visualizations in data communication

Module 8. Dissemination of Results I: Reports, Theses, and Scientific Articles

- ♦ Write technical reports and scientific theses with precision and clarity
- ♦ Apply publication standards for preparing scientific articles
- ♦ Select appropriate journals and media outlets for disseminating results
- ♦ Develop academic writing and scientific argumentation skills



Module 9. Dissemination of Results II: Symposia, Conferences, and Outreach to Society

- ♦ Design effective presentations for conferences and scientific events
- ♦ Apply communication strategies for disseminating results at symposia
- ♦ Adapt language and formats for scientific dissemination to the general public
- ♦ Develop skills for oral presentations and defending research findings

Module 10. Protection and Transfer of Results

- ♦ Identify mechanisms for protecting intellectual property in research
- ♦ Apply strategies for transferring knowledge to industry and society
- ♦ Analyze the importance of patents and licenses in medical research
- ♦ Evaluate opportunities for the commercialization and application of scientific results

“*Apply knowledge in pharmacology, sports nutrition, and supplementation to improve performance and accelerate recovery in athletes*”

05

Career Opportunities

Sports Medical Research opens diverse professional opportunities in a constantly evolving sector. Thanks to advancements in biotechnology, Artificial Intelligence, and data analysis, the demand for specialists capable of developing innovative solutions continues to grow. Sports institutions, high-performance centers, and the biomedical industry require experts in physiological evaluation, injury prevention, and performance optimization. Additionally, collaboration with hospitals, laboratories, and public health organizations enables the application of scientific knowledge to improve quality of life. In this way, this program prepares professionals to lead the transformation of the sector.





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Take advantage of the growing demand for specialists in biotechnology, artificial intelligence, and data analysis applied to health and sports”

Graduate Profile

Graduates of this program are distinguished by their ability to innovate in the field of Sports Medical Research. Thanks to a comprehensive education, they develop skills in biomedical data analysis, the use of advanced technological tools, and the application of scientific methodologies for optimizing performance and preventing injuries. Moreover, their multidisciplinary profile enables them to lead projects in clinical, academic, and industrial settings, driving the development of evidence-based strategies. With a critical and proactive approach, they are prepared to transform the sector through research and the application of innovative solutions.

Integrate innovative collaborative research methodologies and learn to work in multidisciplinary teams within scientific and technological environments.

- ♦ **Critical and Analytical Thinking:** Ability to evaluate scientific information, interpret data, and make evidence-based decisions
- ♦ **Teamwork and Leadership:** Ability to coordinate research groups, manage collaborative projects, and foster interdisciplinary communication
- ♦ **Adaptability and Innovation:** Competence in integrating new technologies, advanced methodologies, and disruptive approaches in applied sports medical research
- ♦ **Effective Scientific Communication:** Expertise in writing articles, preparing technical reports, and presenting results in academic and professional settings





After completing the program, you will be able to perform your knowledge and skills in the following positions:

- 1. Sports Biomedicine Researcher:** Lead studies on physiological responses to exercise, injury prevention, and recovery in high-performance athletes.
- 2. Biomedical Data Analyst:** Apply Artificial Intelligence and Big Data to interpret physiological data, optimize training, and design personalized strategies.
- 3. Sports Technology Consultant:** Advise on the implementation of innovative tools, such as wearables and monitoring software, to enhance sports performance.
- 4. Health and Sports Project Manager:** Coordinate research and development initiatives in sports institutions, hospitals, and biomedical companies.
- 5. Sports Regenerative Medicine Expert:** Design treatments based on cellular therapies and biomaterials to accelerate recovery from musculoskeletal injuries.
- 6. Director of Sports Performance Laboratories:** Supervise physiological and biomechanical assessments for performance enhancement and injury prevention in athletes.
- 7. Sports Pharmacology and Supplementation Specialist:** Research and develop strategies for optimizing nutrition and pharmacology to maximize physical performance.
- 8. Health and Sports Policy Consultant:** Collaborate with governmental and private organizations to develop prevention and health promotion strategies through exercise.

“

Implement advanced research methodologies in sports medicine and optimize the prevention, diagnosis, and treatment of injuries”

06

Study Methodology

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

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



“

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

The student: the priority of all TECH programs

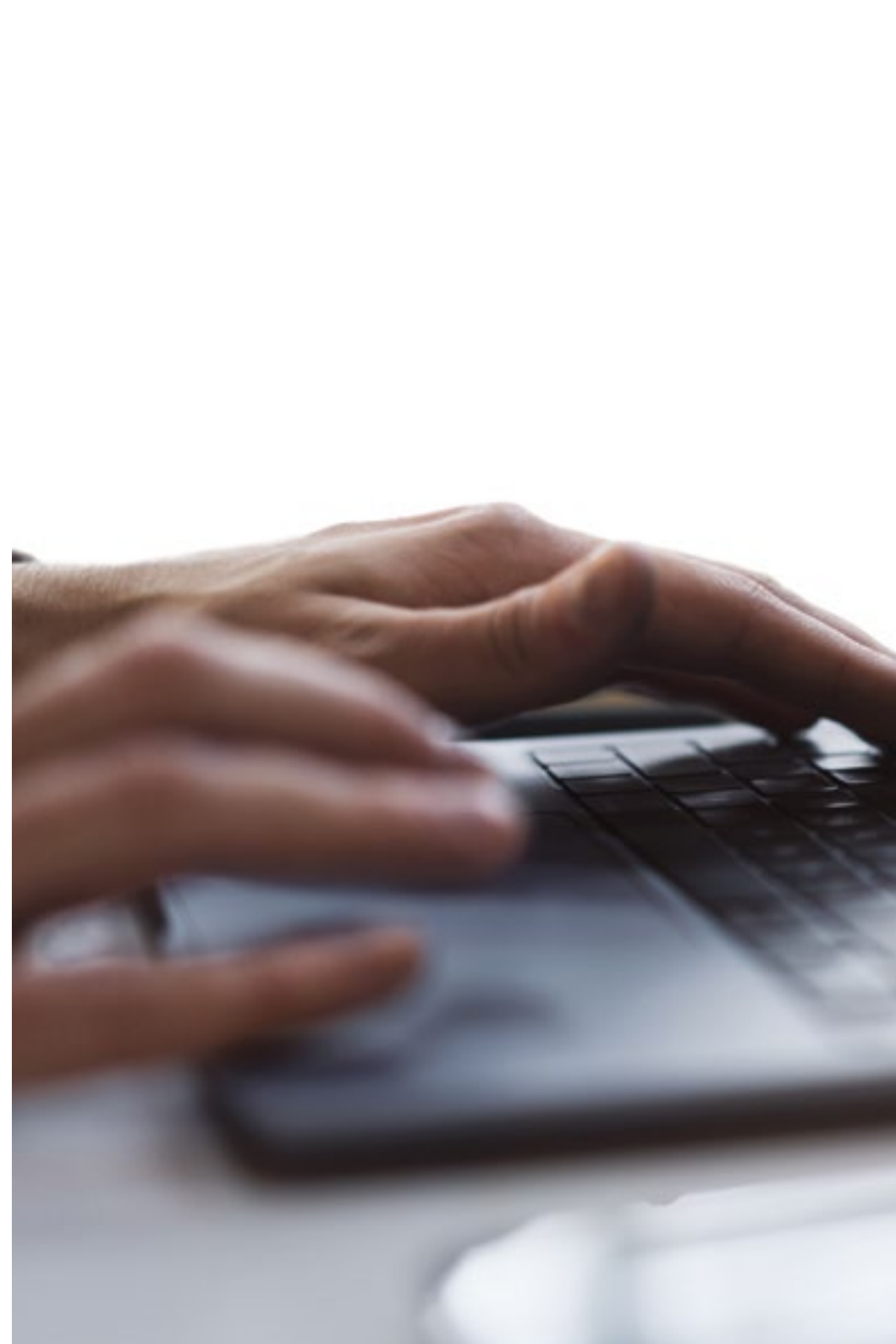
In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

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

“

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



The most comprehensive study plans at the international level

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

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

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

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

Case Studies and Case Method

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

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

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



Relearning Methodology

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

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

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

Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.



A 100% online Virtual Campus with the best teaching resources

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

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

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

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



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

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

The university methodology top-rated by its students

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

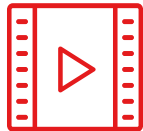
The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

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

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



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



Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



Practicing Skills and Abilities

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



Interactive Summaries

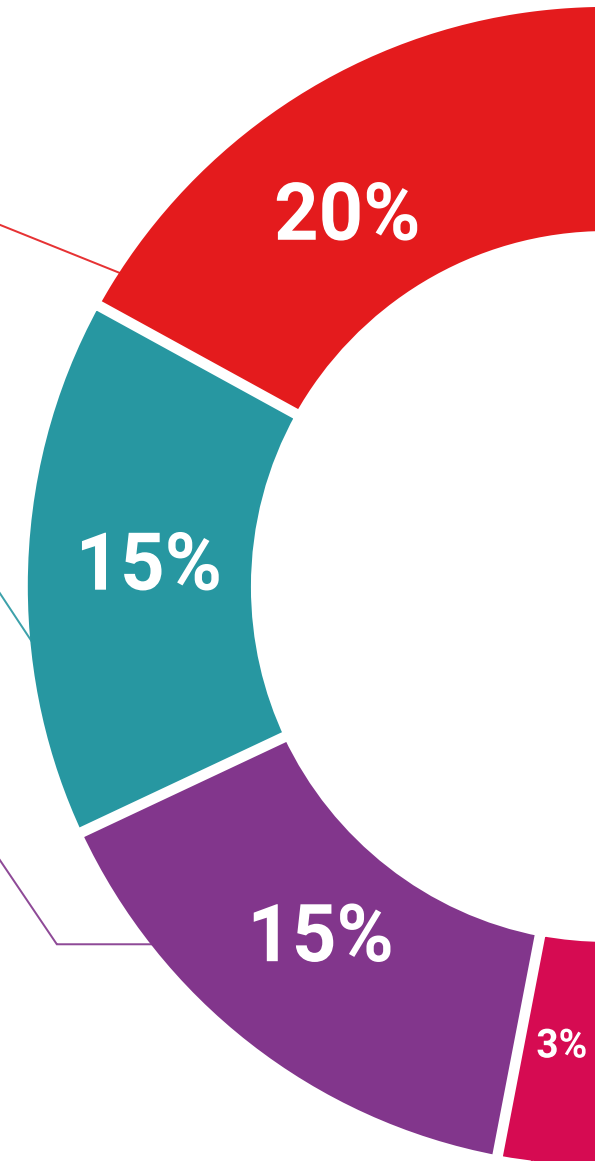
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

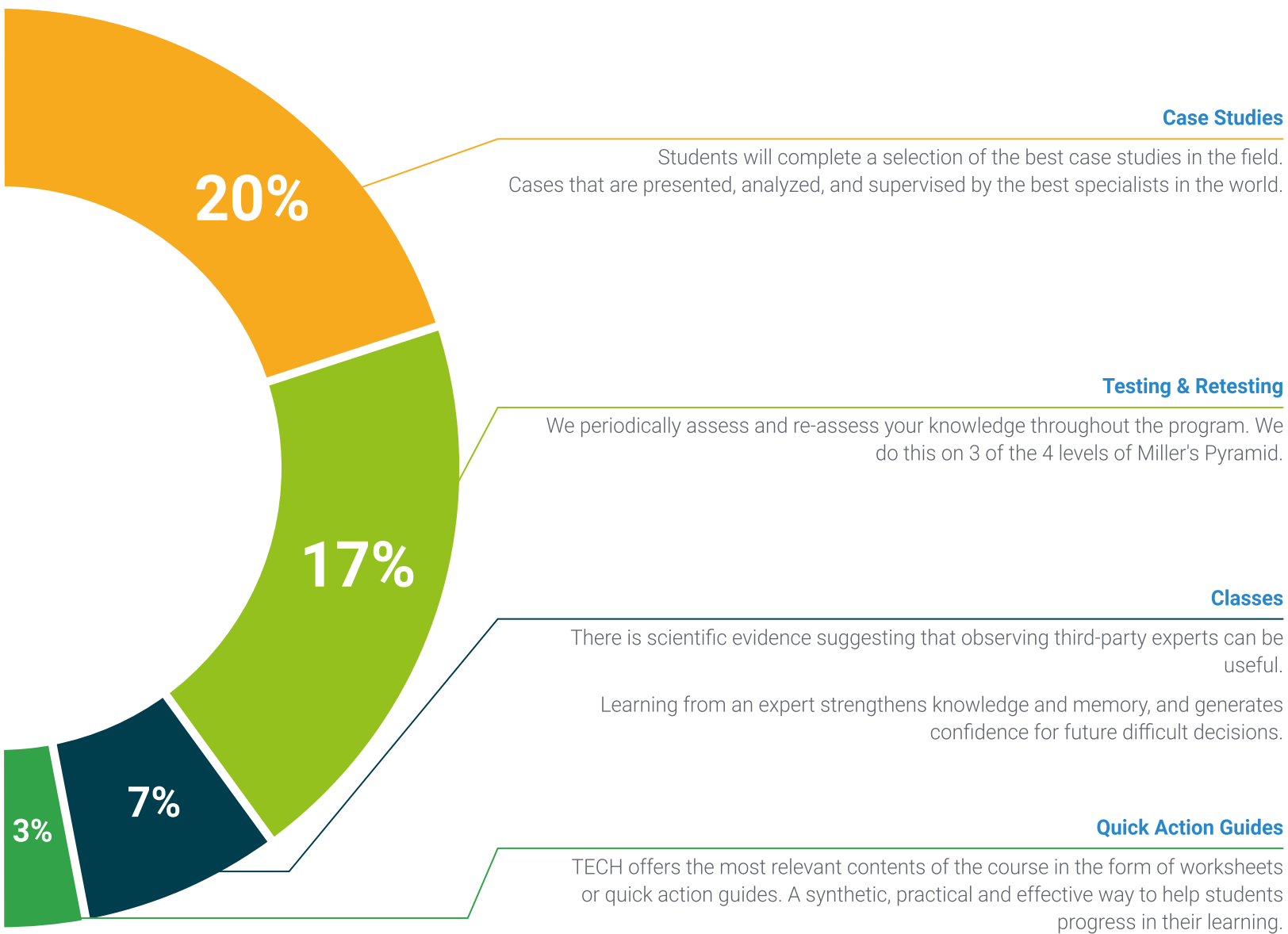
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.



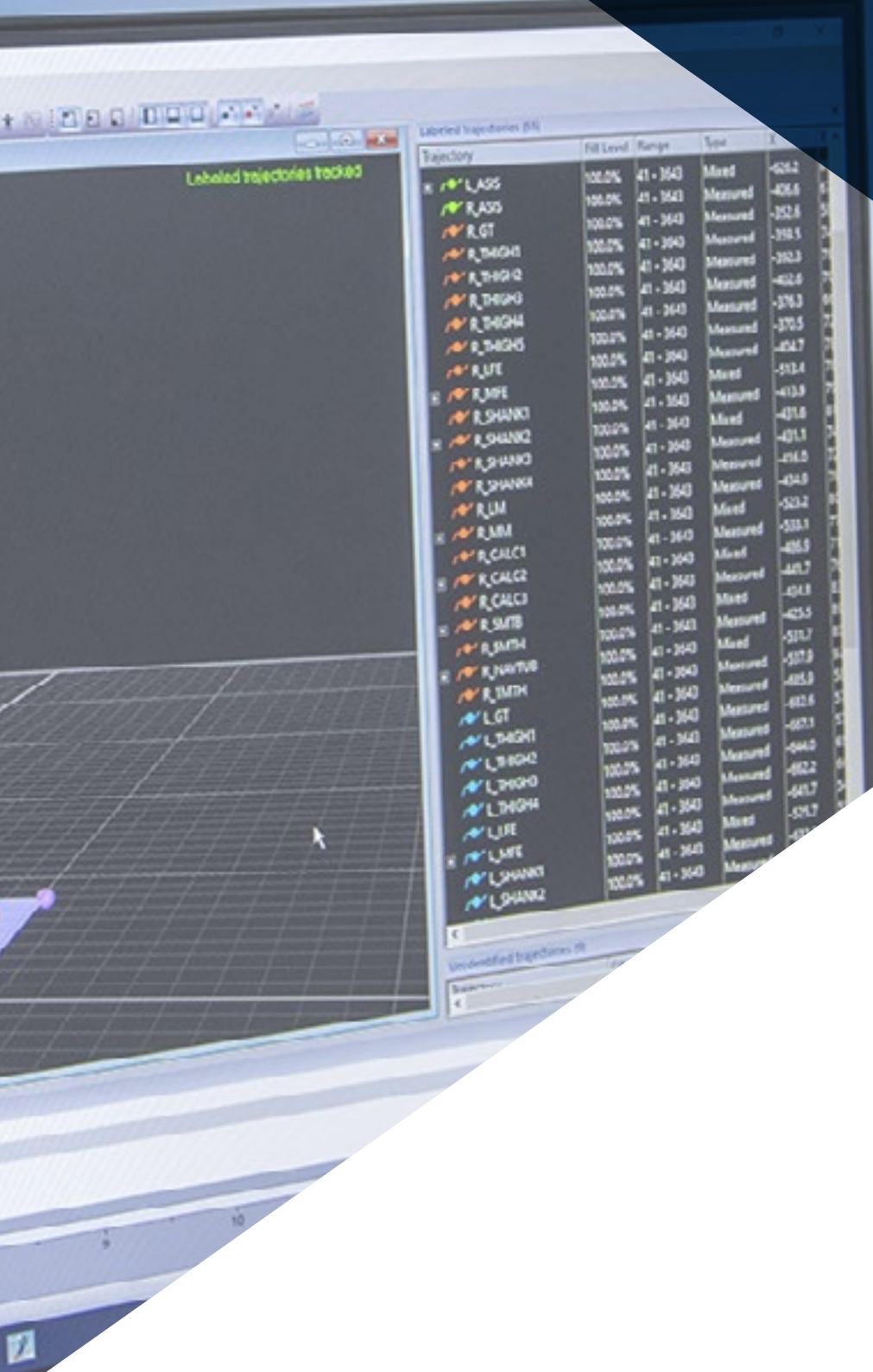


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Teaching Staff

The teaching staff of this program at TECH is made up of internationally renowned experts, whose research and practical experience have driven significant advances in the field of Sports Medicine. Thanks to their work in leading institutions, cutting-edge hospitals, and health organizations, they provide an up-to-date perspective grounded in scientific evidence. Additionally, they combine an innovative approach with mastery of the latest technologies applied to research in health and sports. All of this ensures high-level education focused on developing professionals capable of leading projects, generating knowledge, and transforming the sector with cutting-edge solutions.





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Enroll now and become a reference in sports medical research with the support of TECH and its expert faculty”

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.

Teachers

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. 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
- ♦ Doctor of Psychology from the Complutense University of Madrid
- ♦ Degree in Psychology from the Complutense University 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 Borrell Researcher, National Biotechnology Center (CNIC - ISCIII)
- ♦ PhD in Biochemistry, Molecular Biology and Biomedicine, Autonomous University of Madrid
- ♦ Bachelor's Degree in Biology from the Complutense University of Madrid.

Dr. Martín Quirós, Alejandro

- ♦ Head 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
- ♦ Associate of the Emergency Department of the Hospital Universitario de la Paz
- ♦ Attachment of Internal Medicine/Infectious Diseases from the High-Level Isolation Unit at the La Paz University Hospital - Carlos III Hospital
- ♦ Internist at Olympia Quirón Hospital

08 Certificate

The Master's Degree in Sports Medical Research guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Master's Degree 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 private qualification will allow you to obtain a **Master's Degree 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** private qualification 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: **Master's Degree in Sports Medical Research**

Modality: **online**

Duration: **12 months.**

Accreditation: **60 ECTS**





Master's Degree Sports Medical Research

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

Master's Degree Sports Medical Research

Endorsed by the NBA



tech global
university