

# Postgraduate Certificate Medical Fitness, Functional and Biomechanical Assessment

Endorsed by the NBA





## Postgraduate Certificate Medical Fitness, Functional and Biomechanical Assessment

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-certificate/medical-fitness-functional-biomechanical-assessment](http://www.techtute.com/us/medicine/postgraduate-certificate/medical-fitness-functional-biomechanical-assessment)

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# 01

# Introduction

Assessment and evaluation are key in any process, and even more so in the prevention, readaptation and functional rehabilitation of patients with sports injuries, due to the number of variables involved in this process. Therefore, it is necessary for the physician to know all the variables to verify that his exercise prescription and evolution is correct, achieving great benefits for their patients. If the student wants to specialize in this field, they should think more and join this community of learners. TECH will provide you with the most complete information on the market.



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*Physicians working in sports rehabilitation must have superior education in different fields that will enable them to provide more personalized care to their patients”*

This Postgraduate Certificate in Medical Fitness, Functional and Biomechanical Assessment of TECH has been designed by a team of professionals in the field, with extensive experience in the sector, with the aim of providing education to health professionals who work in this field, or who wish to join it, to offer a more personalized attention to their patients that allows them, in addition to achieving the rapid recovery of athletes, to avoid possible injuries.

Specifically, the syllabus will address different types of medical evaluations, among which we can highlight the genetic evaluation, which shows the genotypes of polymorphisms of certain genes that have greater or lesser susceptibility to both injuries and the ability to recover, or biochemical evaluation, with markers of muscle damage, inflammatory processes, etc.

There will also be time to learn about functional movement assessment, which is an evaluation tool through individualized analysis of the dynamic and functional capacity of the locomotor apparatus.

Nutritional evaluation through a 24-hour questionnaire and/or specific software is essential in this type of process, since an organism without nutritional deficiencies recovers faster and better from damage or injury, as well as the evaluation of the quality of life. Finally, the evaluation of physical fitness is essential, especially in terms of strength, endurance, flexibility and speed. Excellent or poor physical condition will determine the prevention process.

It should be noted that, being an online program, the student is not conditioned by fixed schedules or the need to move to another physical location, but can access the contents at any time of the day, balancing their work or personal life with their academic life.

This **Postgraduate Certificate in Medical Fitness, Functional and Biomechanical Assessment** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ The development of numerous case studies presented by specialists in sports rehabilitation
- ◆ The graphic, schematic and practical contents of the course are designed to provide all the essential information required for professional practice
- ◆ Exercises where the self-assessment process can be carried out to improve learning
- ◆ Algorithm-based interactive learning system for decision-making
- ◆ Special focus on innovative methodologies in Medical Fitness, Functional and Biomechanical Assessment
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection work
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*Immerse yourself in the study of this high-level Postgraduate Certificate and improve your skills in Sports Rehabilitation"*

“

*This Postgraduate Certificate is the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in Medical Fitness, Functional and Biomechanical Assessment, you will obtain a degree from TECH Global University"*

It includes, in its teaching staff, professionals belonging to the field of Sports Rehabilitation, who pour into this education the experience of their work, in addition to recognized 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 immersive training programmed to train in real situations.

This program is designed around Problem-Based Learning, whereby the physician must try to solve the different professional practice situations that arise throughout the program. To do so, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts in Medical Fitness, Functional and Biomechanical Assessment.

*The Postgraduate Certificate allows you to exercise in simulated environments that provide an immersive learning program in order to train in real situations.*

*This 100% online Postgraduate Certificate will allow you to combine your studies with your professional work while increasing your knowledge in this field.*



# 02 Objectives

The main objective of this program is the development of theoretical and practical learning, so that the physician can master in a practical and rigorous way the Medical Fitness, Functional and Biomechanical Assessment.





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*Our goal is to achieve academic excellence and help you achieve professional success. Don't hesitate any longer and join us”*



## General Objectives

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- ◆ Acquire specialized knowledge in sports rehabilitation, injury prevention and functional recovery
- ◆ Assess the athlete from the point of view of physical, functional and biomechanical condition to detect aspects that hinder recovery or favor relapses in the injury
- ◆ Design both specific readaptation and recovery work, as well as individualized integral work
- ◆ Acquire a specialization in the pathologies of the locomotor system with the highest incidence in the population as a whole
- ◆ Evaluate and monitor the evolutionary process of recovery and/or rehabilitation of an athlete's or user's injury
- ◆ Acquire skills and abilities in readaptation, prevention and recovery of sports injuries
- ◆ Differentiate from an anatomical point of view the different parts and structures of the human body
- ◆ To improve the injured athlete's physical condition as part of the integral work with the objective of achieving a better and efficient recovery after the injury





## Specific Objectives

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- ◆ Use biomechanics of movement as a key tool in the prevention and rehabilitation process
- ◆ Clarify the importance of nutritional, biochemical, genetic and quality of life assessment from the initial period to the end of the process
- ◆ Evaluate the different parameters related to physical fitness: strength, speed, flexibility, endurance, etc
- ◆ Detect anomalies that hinder or prevent a correct recovery/rehabilitation process

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*The sports field requires trained professionals, and we give you the keys to position yourself among the professional elite”*

# 03

# Course Management

This teaching team, experts in Sports Rehabilitation, have extensive prestige in the profession and are professionals with years of teaching experience who have come together to help students give a boost to their profession. To this end, they have developed this Postgraduate Certificate with recent updates on the subject that will allow for education and increase skills in this sector.





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*Learn from the best professionals and  
become a successful professional yourself”*

## International Guest Director

Isaiah Covington is a highly skilled performance coach with extensive experience in treating and addressing various injuries in elite athletes. In fact, his professional career has been directed to the **NBA**, one of the most important sports leagues around the world. He is the **performance coach of the Bolton Celtics**, one of the most important teams in the Eastern Conference and with the greatest projection in the United States.

His work in such a demanding league has made him specialize in maximizing the **physical and mental potential** of the players. His past experience with other teams, such as the Golden State Warriors and the Santa Cruz Warriors, has been key. This has also allowed him to work on sports injuries, focusing on the **prevention and rehabilitation** of the most common injuries in elite athletes.

In the academic field, his interest has focused on the field of kinesiology, exercise science and high performance sport. All of this has led him to excel prolifically in the NBA, working day-to-day with some of the top basketball players and coaching staffs from around the world.



## Dr. Covington, Isaiah

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- Performance coach of the Golden State Warriors
- Head Performance Coach of the Santa Cruz Warriors
- Performance Coach at Pacers Sports & Entertainment
- B.S. in Kinesiology and Exercise Science from the University of Delaware
- Specialization in Training Management
- Master's degree in Kinesiology and Exercise Science from Long Island University
- Master's Degree in Performance Sport from Australian Catholic University

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*Thanks to TECH you will  
be able to learn with the  
world's best professionals”*

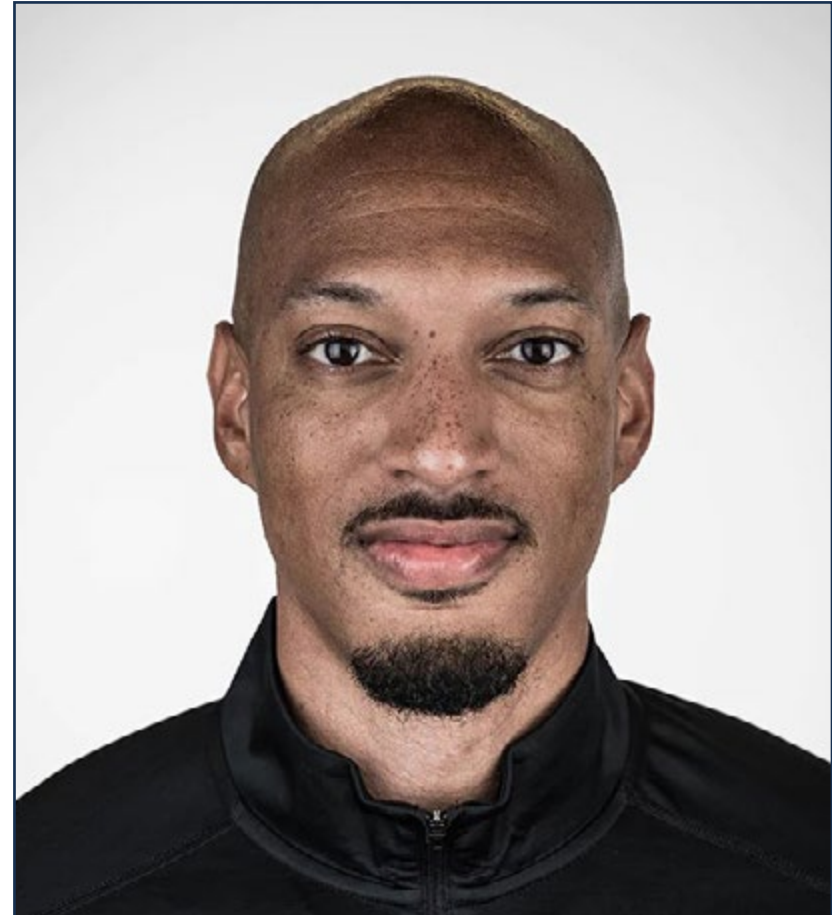
## International Guest Director

Dr. Charles Loftis is a renowned specialist who serves as a **sports performance therapist** for the **Portland Trail Blazers in the NBA**. His impact on the world's premier basketball league has been significant, bringing distinguished expertise in creating strength and conditioning programs.

Prior to joining the Trail Blazers, he was the head strength and conditioning coach for the Iowa Wolves, implementing and overseeing the development of a comprehensive player program. In fact, his experience in the sports performance field began with the establishment of XCEL Performance and Fitness, of which he was the founder and head coach. There, Dr. Charles Loftis worked with a wide range of athletes to develop strength and conditioning programs, in addition to working on the **prevention and rehabilitation of sports injuries**.

His academic background in the field of chemistry and biology gives him a unique perspective on the science behind sports performance and physical therapy. As such, he holds CSCS and RSCC designations from the National Strength and Conditioning Association (NSCA), which recognize his knowledge and skills in the field. He is also certified in PES (Performance Enhancement Specialist), CES (Corrective Exercise Specialist) and dry needling.

All in all, Dr. Charles Loftis is a vital member of the NBA community, working directly with both the strength and performance of elite athletes as well as the necessary prevention and rehabilitation of various sports injuries.





## Dr. Loftis, Charles

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- Head strength and conditioning coach for the Iowa Wolves
- Founder and head coach at XCEL Performance and Fitness
- Head performance coach for the Oklahoma Christian University men's basketball team
- Physical Therapist at Mercy
- Doctor of Physical Therapy from Langston University
- B.S. in Chemistry and Biology from Langston University

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*Thanks to TECH you will be able to learn with the world's best professionals”*

## Management



### Dr. González Matarín, Pedro José

- ♦ Doctor in Health Sciences
- ♦ Degree in Physical Education Teacher
- ♦ Master's Degree in Functional Recovery in Physical Activity and Sport
- ♦ Master's Degree in Regeneration Medicine
- ♦ Master's Degree in Physical Activity and Health
- ♦ Master in Dietetics and Diet Therapy
- ♦ Postgraduate in Obesity
- ♦ Postgraduate in Nutrition and Dietetics
- ♦ Postgraduate Degree in Genomic Medicine, Pharmacogenetics and Nutrigenetics
- ♦ Associate Professor Doctor and Private University (DEVA)
- ♦ PDI collaborator at UNIR, VIU, UOC and TECH



# 04

# Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable about the implications of the program in daily practice, aware of the current relevance of quality education in the field of Sports Rehabilitation; and committed to quality teaching through new educational technologies.





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*We have the most complete and up-to-date academic program in the market. We want to put the best education at your fingertips"*

## Module 1. Fitness, Functional and Biomechanical Assessment

- 1.1. Anatomy and Kinesiology
- 1.2. The Science of Human Motion
- 1.3. Applied Biomechanics:
- 1.4. Initial Customer Inquiry
- 1.5. Physical Fitness Testing Protocols and Standards
- 1.6. Functional Movement Assessment
  - 1.6.1. Motion Detection, Testing and Evaluation
  - 1.6.2. Functional Movement Screen (FMS)
  - 1.6.3. Selective Assessment of Functional Movement
  - 1.6.4. Specific Functional Performance Tests
- 1.7. Nutritional Assessment, Genetic Evaluation, Biochemistry and Quality of Life
- 1.8. Biomechanics
  - 1.8.1. Biomechanical Fundamentals
  - 1.8.2. Biomechanics of Human Movement
  - 1.8.3. Muscular Control of Movement
  - 1.8.4. Biomechanics of Resistance Exercise
- 1.9. Evaluation of Physical Fitness
- 1.10. Risk Detection and Stratification





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*A unique, key, and decisive training experience to boost your professional development”*

# 05

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





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

## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

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

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



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

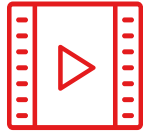
*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



#### Study Material

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

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

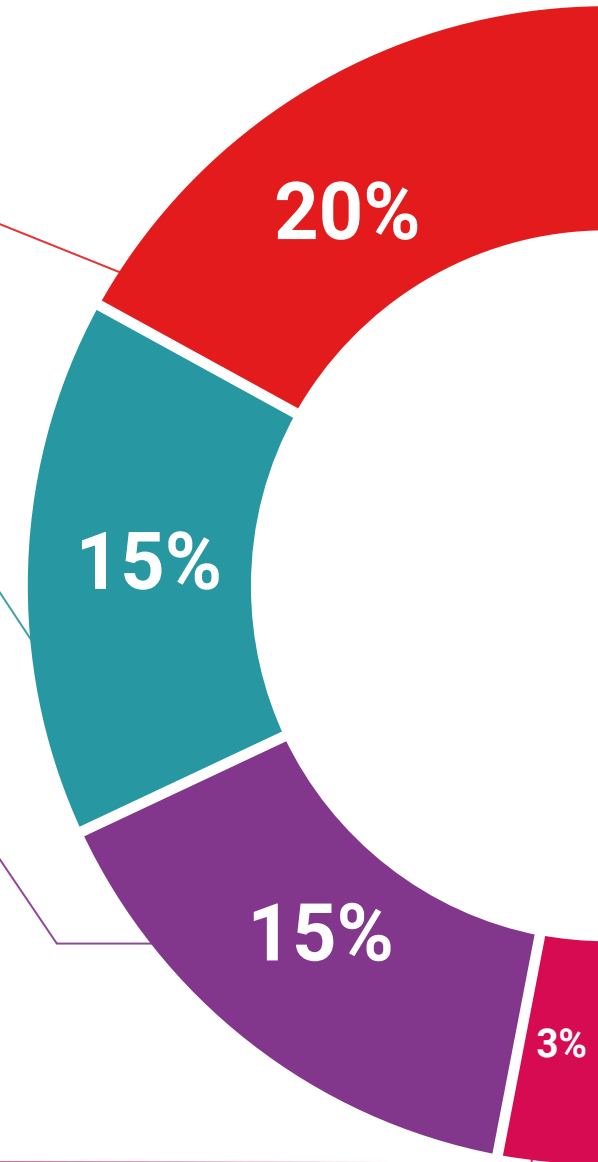
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

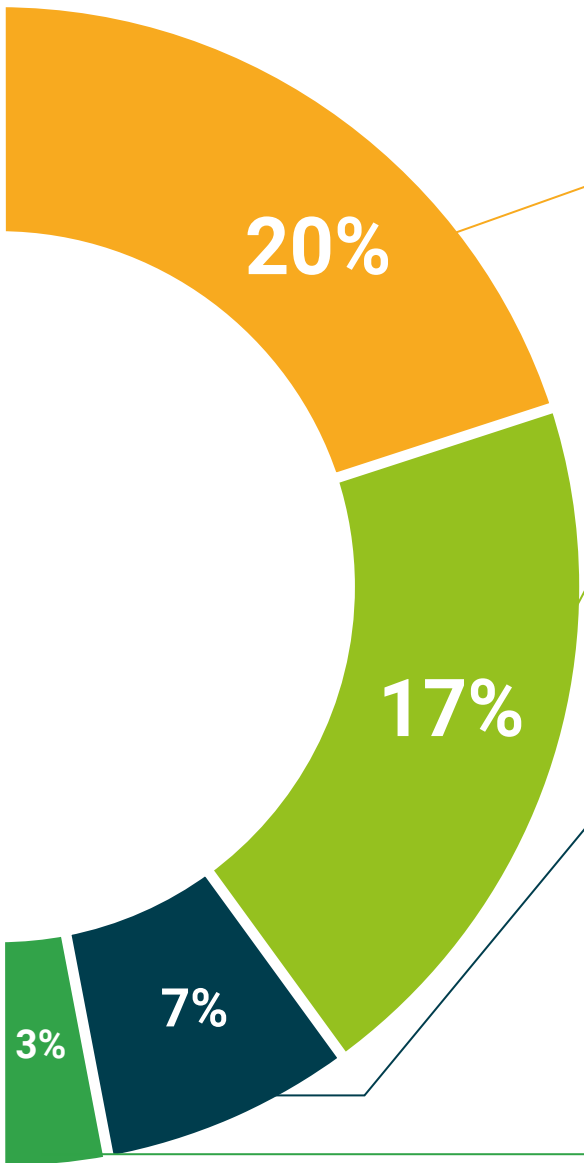
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### 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.



06

# Certificate

The Postgraduate Certificate in Medical Fitness, Functional and Biomechanical Assessment guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate 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 **Postgraduate Certificate in Medical Fitness, Functional and Biomechanical Assessment** 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.

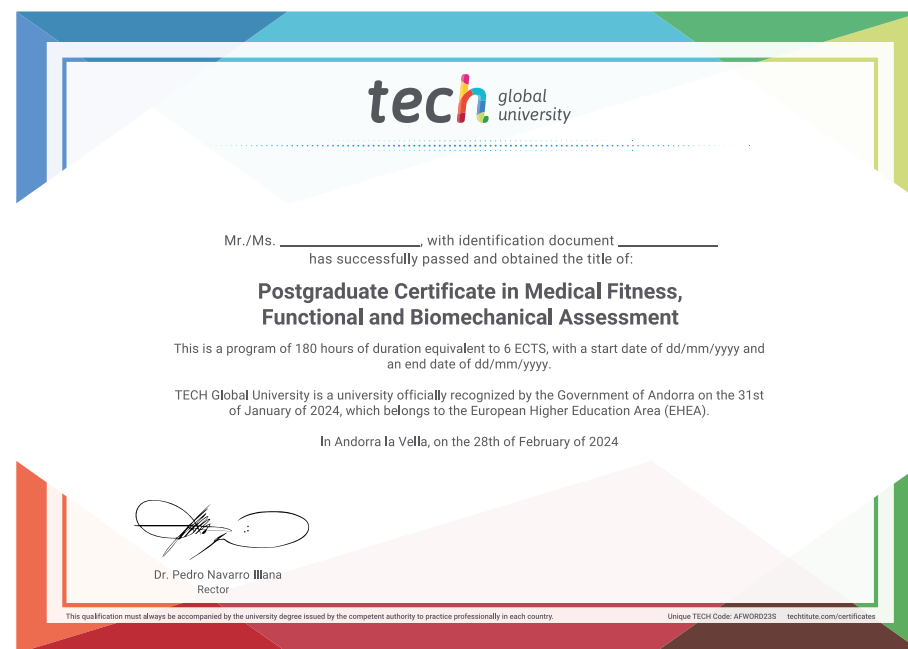
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Medical Fitness, Functional and Biomechanical Assessment**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 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.

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development language  
virtual classroom



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