

# Postgraduate Certificate

## Strength Training in Medium and Long Duration Sports

Endorsed by the NBA





## Postgraduate Certificate

### Strength Training in Medium and Long Duration Sports

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/in/sports-science/postgraduate-certificate/stength-training-medium-long-duration-sports](http://www.techtitute.com/in/sports-science/postgraduate-certificate/stength-training-medium-long-duration-sports)

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# 01

# Introduction

Elite events such as Tour de France stages, Olympic distance Triathlon, defining the first place with a sprint finish are more and more frequently observed. It is therefore necessary to have adequate levels of strength to sustain the length of the stride, stroke, paddle, etc., during the race and to have the neuromuscular development to sprint over the finish. For this purpose, maximum strength, relative strength and reactive strength play a fundamental role.

In this high-level program you will specialize in strength training in medium and long duration sports.



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In recent years, strength training has gained great momentum in the scientific community, covering multiple contexts ranging from performance in individual, time-based sports to competitive team sports, covering the whole range of sports disciplines.

The student of this Postgraduate Certificate will have differentiating skills with respect to their professional colleagues, being able to perform in all areas of sport as a specialist in Strength Training.

The teaching team of this Postgraduate Certificate in Strength Training in Medium and Long Duration Sports has made a careful selection of each of the topics of this program in order to offer the student a study opportunity as complete as possible and always linked to current events.

Therefore, at TECH we have set out to create contents of the highest teaching and educational quality that will turn our students into successful professionals, following the highest quality standards in teaching at an international level. Therefore, we show you this course with a rich content that will help you reach the elite of physical training. In addition, as it is an online course, 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 Strength Training in Medium and Long Duration Sports** contains the most complete and up-to-date scientific program on the market. The most important features of the program include:

- ◆ The development of numerous case studies presented by specialists in personal training
- ◆ 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 emphasis on innovative methodologies in personal training
- ◆ 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





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*This Postgraduate Certificate is the best investment you can make in selecting a refresher program for two reasons: in addition to updating your knowledge as a personal trainer, you will obtain a qualification from the leading online university in Spanish: TECH”*

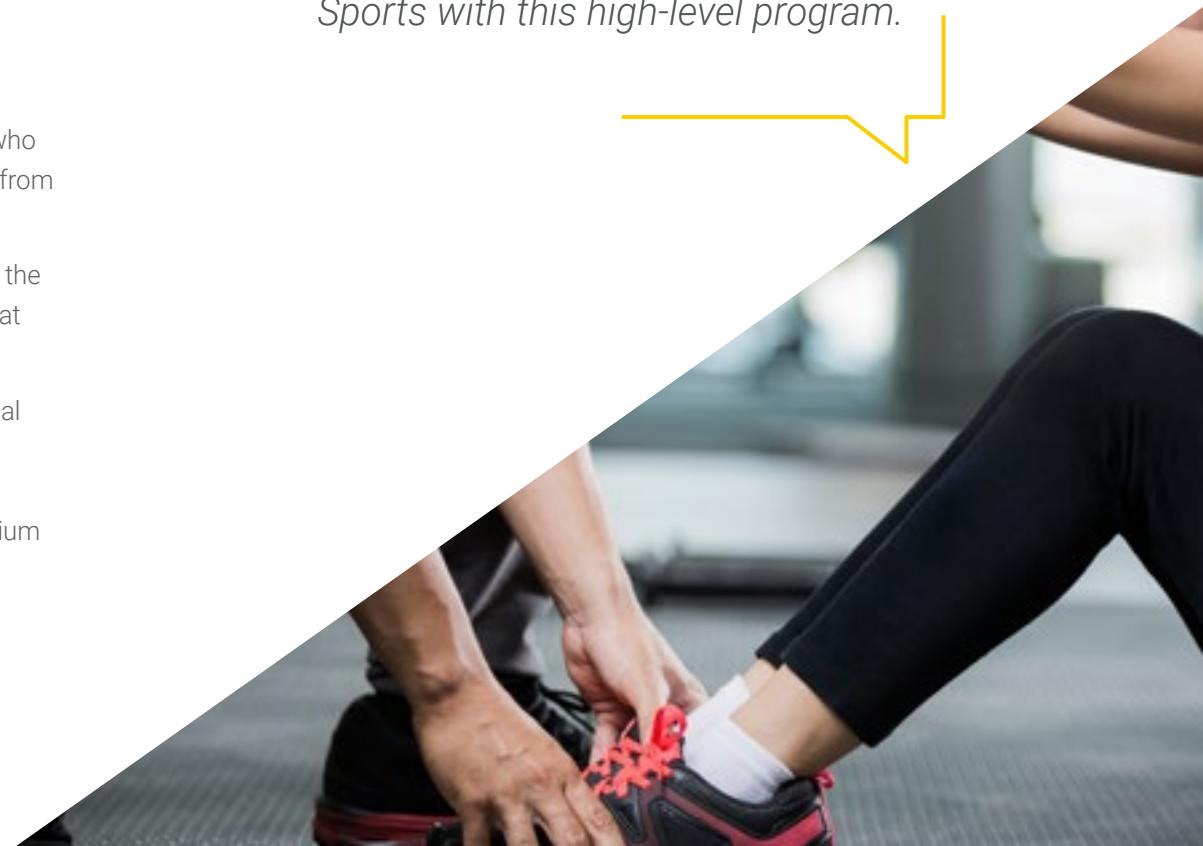
Its teaching staff includes professionals belonging to the field of sports sciences, who bring to this training the experience of their work, as well as recognized specialists from leading companies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the professional will be assisted by an innovative interactive video system created by recognized experts in Strength Training in Medium and Long Duration Sports and with a great deal of experience.

*This program offers learning in simulated environments, which provides an immersive learning experience designed to prepare for real-life situations.*

*Increase your knowledge in Strength Training in Medium and Long Duration Sports with this high-level program.*



# 02 Objectives

The main objective of this program is the development of theoretical and practical learning, so that the sports science professional can master in a practical and rigorous way the Strength Training in Medium and Long Duration Sports.







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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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- ◆ Gain in-depth knowledge based on the most current scientific evidence with full applicability in the practical field of strength training.
- ◆ Master knowledge of all the most advanced methods of strength training.
- ◆ Confidently apply the most current training methods for the improvement of sports performance in terms of strength.
- ◆ Efficiently master knowledge of strength training to improve performance in individual, time-based sports as well as competitive, team sports.
- ◆ Master the principles governing Exercise Physiology, as well as Biochemistry
- ◆ Deepen knowledge of the principles that govern the Theory of Complex Dynamic Systems and how this relates to strength training.
- ◆ Successfully integrate strength training to improve motor skills used in sport.
- ◆ Successfully master all the knowledge acquired in different modules and be able to apply it in practice.





## Specific Objectives

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- ◆ Identify and analyze the mechanisms of strength production in different endurance disciplines.
- ◆ Gain in-depth knowledge of the different methods of strength training and their practical application.
- ◆ Gain deeper knowledge of the effects of concurrent training and its effects on endurance performance.
- ◆ Program and organize strength training



*The world of sports requires prepared professionals and we give you the keys to position yourself among the professional elite"*

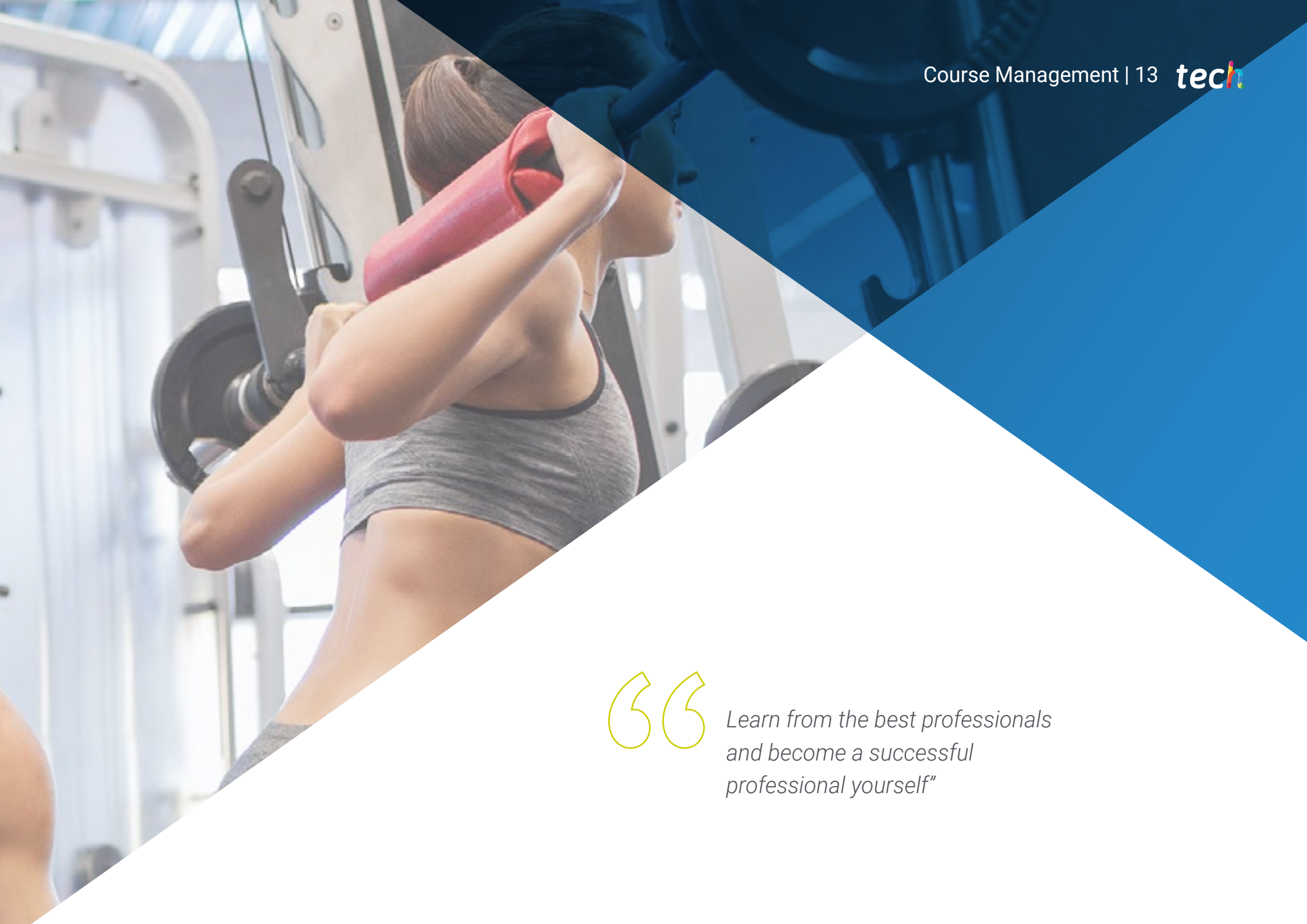


03

# Course Management

Our teaching team, experts in Personal Training, all have extensive prestige in the profession and are professionals with years of teaching experience who have come together to help you give a boost to your profession. To this end, they have developed this Postgraduate Certificate with the latest developments in the field that will allow you to specialize and increase your skills in this sector.





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

## Management



### Mr. Rubina, Dardo

- ♦ CEO of Test and Training
- ♦ EDM Physical Training Coordinator
- ♦ Physical trainer of the EDM First Team
- ♦ Master's Degree in ARD COE
- ♦ EXOS CERTIFICATION
- ♦ Specialist in Strength Training for the Prevention of Injuries, Functional and Physical-Sports Rehabilitation
- ♦ Specialist in Strength Training Applied to Physical and Sports Performance
- ♦ Specialist in Applied Biomechanics and Functional Assessment
- ♦ Certification in Weight Management and Physical Performance Technologies
- ♦ Postgraduate course in Physical Activity in Populations with Pathologies
- ♦ Postgraduate Degree in Injury Prevention and Rehabilitation
- ♦ Certification in Functional Assessment and Corrective Exercise
- ♦ Certification in Functional Neurology
- ♦ Diploma in Advanced Studies (DEA) University of Castilla la Mancha
- ♦ PhD Candidate in ARD



## Professors

### Graduate. Mr. Añon, Pablo

- ◆ Degree in Physical Activity and Sport
- ◆ Postgraduate Degree in Sports Medicine and Applied Sports Science
- ◆ Physical trainer of the National Volleyball team that will attend the next Olympic Games
- ◆ Certified Strength and Conditioning Specialist, NSCA certification
- ◆ NSCA National Conference



04

# Structure and Content





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*We have the most complete and up-to-date scientific program on the market. We want to provide you with the best specialization”*



## Module 1. Training in Medium and Long Duration Sports

- 1.1. Strength
  - 1.1.1. Definition and concept
  - 1.1.2. Continuum of Conditional Abilities
  - 1.1.3. Strength Requirements for Endurance Sports. Scientific Evidence
  - 1.1.4. Displays of Strength and Their Relationship to Neuromuscular Adaptations in Endurance Sports
- 1.2. Scientific Evidence on the Adaptations of Strength Training and its Influence on Medium and Long Duration Endurance Tests
  - 1.2.1. Neuromuscular Adaptations
  - 1.2.2. Metabolic and Endocrine Adaptations
  - 1.2.3. Adaptations When Performing Specific Tests
- 1.3. Principle of Dynamic Correspondence Applied to Endurance Sports
  - 1.3.1. Bio-mechanical Analysis of Strength Production in Different Actions: Running, Cycling, Swimming, Rowing, Cross-Country Skiing
  - 1.3.2. Parameters of Muscle Groups Involved and Muscle Activation
  - 1.3.3. Angular Kinematics
  - 1.3.4. Rate and Duration of Force Production
  - 1.3.5. Stress Dynamics
  - 1.3.6. Amplitude and Direction of Movement
- 1.4. Concurrent Strength and Endurance Training
  - 1.4.1. Historical Perspective
  - 1.4.2. Interference Phenomenon
    - 1.4.2.1. Molecular Aspects
    - 1.4.2.2. Sports Performance
  - 1.4.3. Effects of Strength Training on Endurance
  - 1.4.4. Effects of Resistance Training on Strength Demonstrations
  - 1.4.5. Types and Modes of Load Organization and Their Adaptive Responses
  - 1.4.6. Concurrent Training. Evidence on Different Sports





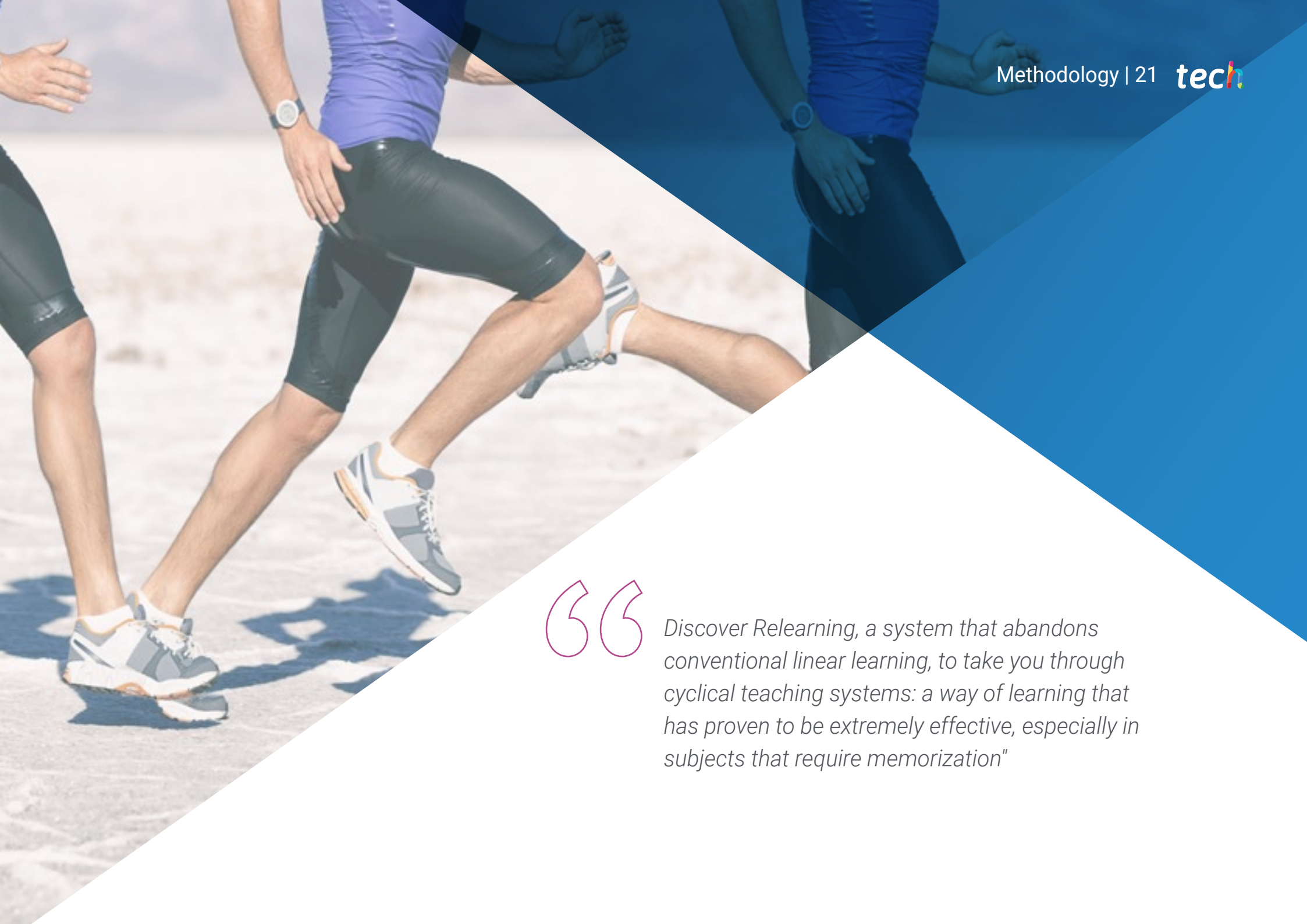
- 1.5. Strength Training
  - 1.5.1. Means and Methods for Developing Maximum Strength
  - 1.5.2. Means and Methods for Explosive Strength Development.
  - 1.5.3. Means and Methods for Reactive Strength Development.
  - 1.5.4. Compensation Training and the Reduction of the Risk of Injury
  - 1.5.5. Plyometric Training and Jumping Development as an Important Part of Improving Running Economy
- 1.6. Exercises and Special Means of Strength Training for Medium and Long Endurance Sports
  - 1.6.1. Movement Patterns
  - 1.6.2. Basic Exercises
  - 1.6.3. Ballistic Exercises
  - 1.6.4. Dynamic Exercises
  - 1.6.5. Resisted and Assisted Strength Exercises
  - 1.6.6. CORE Exercises
- 1.7. Strength Training Programming Based on the Microcycle Structure
  - 1.7.1. Selection and Order of Exercises
  - 1.7.2. Weekly Frequency of Strength Training
  - 1.7.3. Volume and Intensity According to the Objective
  - 1.7.4. Recovery Times
- 1.8. Strength Training Aimed at Different Cyclic Disciplines
  - 1.8.1. Strength Training for Middle-Distance and Long-Distance Runners
  - 1.8.2. Strength Training for Cycling
  - 1.8.3. Strength Training for Swimming
  - 1.8.4. Strength Training for Rowing
  - 1.8.5. Strength Training for Cross-Country Skiing
- 1.9. Controlling the Training Process
  - 1.9.1. Load Speed Profile
  - 1.9.2. Progressive Load Test

# 05 Methodology

This program provides you with a different way of learning. Our methodology is developed through a cyclical way of learning: *relearning*. This teaching system, from Harvard University, is used in the most prestigious medical schools in the world and has been considered one of the most effective by major publications such as the *New England Journal of Medicine*.







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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

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

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*With TECH, you can experience a way of learning that is shaking the foundations of traditional universities around the world”*



*Our University is the first in the world to combine Harvard Business School case studies with a 100%-online learning system based on repetition.*



### A learning method that is different and innovative.

This Sports Science program at TECH Technological University is an intensive program that prepares you to face all the challenges in this field, both nationally and internationally. The main objective is to promote personal and professional growth. For this purpose, we rely on the case studies of Harvard Business School, with which we have a strategic agreement that allows us to use the materials used in the most prestigious university in the world: HARVARD.

**“** *We are the only online university that offers Harvard materials as teaching materials on its courses”*

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

The case method has been the most widely used learning system among the world's leading business schools for as long as they have existed. 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.

In a given situation, what should a professional do? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the course, you will be presented with multiple real cases. Students will have to combine all their knowledge, and research, argue, and defend their ideas and decisions.

## Relearning Methodology

Our University is the first in the world to combine Harvard University case studies with a 100%-online learning system based on repetition, which combines 16 different teaching elements in each lesson.

We enhance Harvard case studies 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 prepare 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 licensed to incorporate 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 Spanish online university indicators.



In our program, learning is not a linear process, but rather a spiral (we learn, unlearn, forget, and re-learn). Therefore, we balance 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.

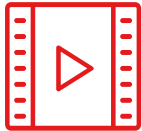
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

Based on the latest evidence in the field of neuroscience, not only do we know how to organize information, ideas, images, memories, but we also know that the place and context where we have learned something is crucial for us to be able to remember it and store it in the hippocampus, and 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.



In this program you will have access to the best educational material, prepared with you 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.

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.



#### 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 our future difficult decisions.



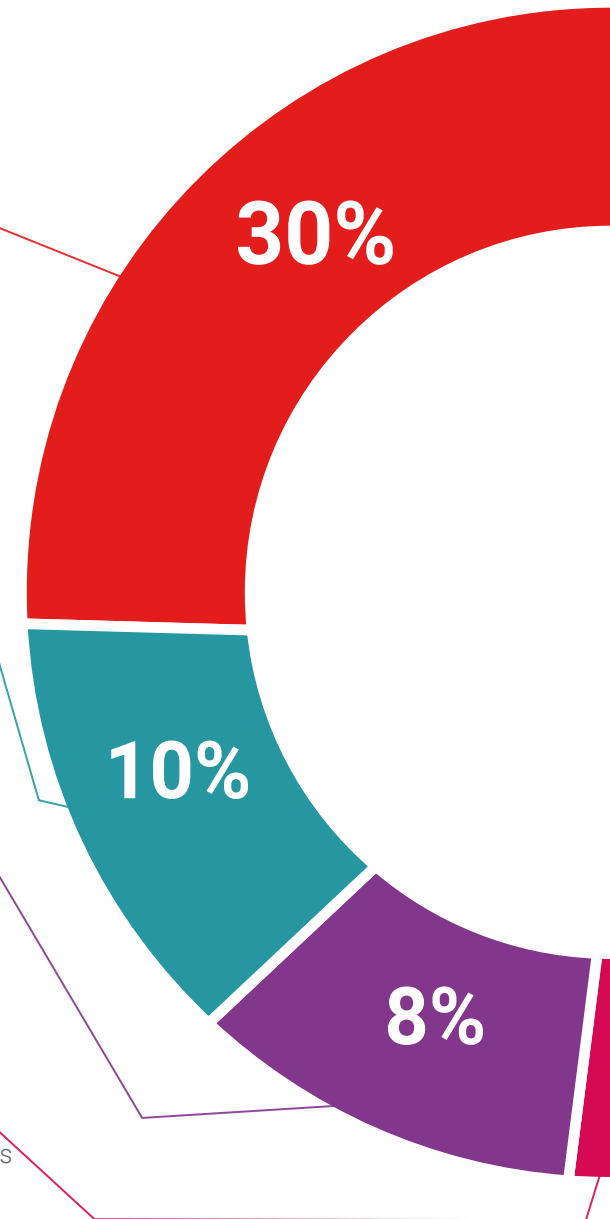
#### Practising Skills and Abilities

Students will carry out activities to develop specific skills and abilities in each subject 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.

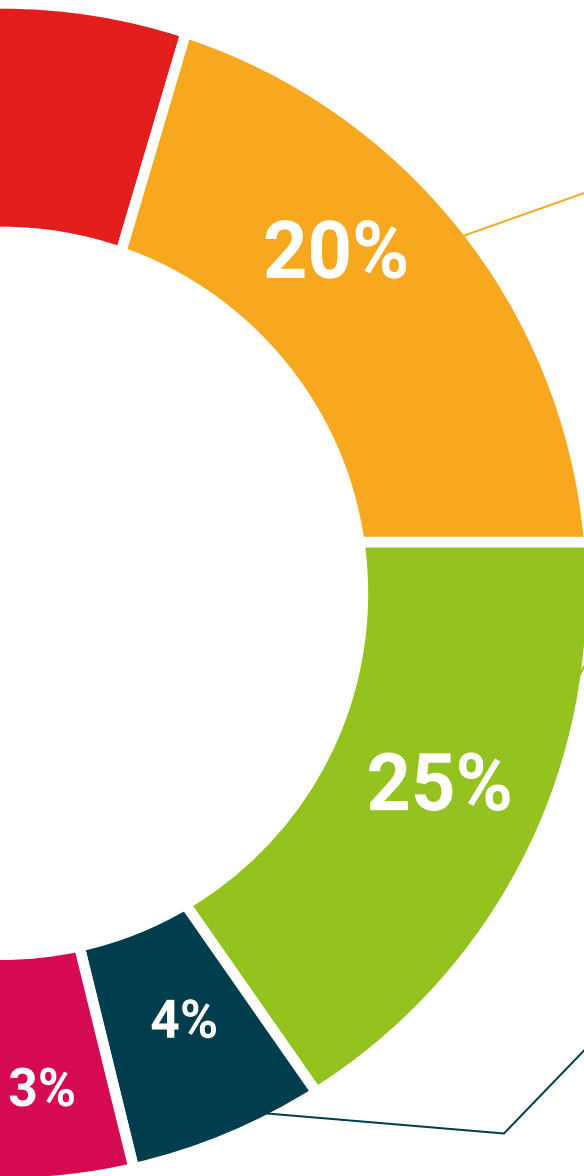


#### Additional Reading

Recent articles, consensus documents, international guides... in our virtual library, students will have access to everything they need to complete their course.







#### Case Studies

You will complete a selection of the best case studies in the field used at Harvard. Cases that are presented, analyzed, and supervised by the best specialists in the world.



#### 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".



#### Testing & Retesting

We periodically evaluate and re-evaluate your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.



# 06 Certificate

This Postgraduate Certificate in Strength Training in Medium and Long Duration Sports guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Strength Training in Medium and Long Duration Sports** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University via tracked delivery**.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career committees.

Title: **Postgraduate Certificate in Strength Training in Medium and Long Duration Sports**

Official Number of Hours: **150**

**Endorsed by the NBA**



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



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Strength Training in Medium and  
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- » Schedule: **at your own pace**
- » Exams: **online**



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