

# Postgraduate Certificate Cycling Strength Training

Endorsed by the NBA





## Postgraduate Certificate Cycling Strength Training

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

Website: [www.techtute.com/us/sports-science/postgraduate-certificate/cycling-strength-training](http://www.techtute.com/us/sports-science/postgraduate-certificate/cycling-strength-training)

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# 01

# Introduction

Strength is a crucial component in cycling, since it is the ability to produce power in the pedals. But it does not just a matter of exercising strength, but also of developing a correct technique on the bike to prevent injuries and ensure proper progression. This is why the continuous updating of cyclists in the methods of this training is of great value to their activity.

TECH offers the perfect specialization concurrent training to increase their performance. With it, students will deepen

the concept of Velocity Based Training and its relationship to the character of effort, as well as concurrent training to increase performance. All this at the mercy of a 100% online format.





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*Get up to date on the latest  
advances in Cycling Strength  
Training with this program"*

In strength training in Cycling it is essential to focus on exercises that work the specific muscles used in pedaling, such as the quads, glutes, hamstrings or calves. It is also important to incorporate exercises for the upper body, as good posture and stability are necessary for proper pedaling technique. In addition, it is highly recommended to combine this type of training with endurance cycling.

For this reason, sports professionals must be continually updated in this work methodology, and TECH meets this need with the most comprehensive approach specialization that can be found in the market. Through it, the practical applications of strength training will be covered, making an exhaustive approach to the concept of Velocity Based Training. It will also address the different devices on the market to work based on VBT, among other points of interest.

Undoubtedly, a specialization in an area of growing interest in the sports field that has the potential to launch the student's professional career. But the best thing is that you will be able to acquire these advanced competencies without leaving home and without the need to adhere to strict schedules, giving TECH the baton of managing your own academic deadlines.

This **Postgraduate Certificate in Cycling Strength Training** contains the most complete and up-to-date program on the market. Its most outstanding features are:

- ◆ The development of case studies presented by experts in Cycling Strength Training
- ◆ The graphic, schematic and practical contents of the program provide Sports and practical information on those disciplines that are essential for professional practice
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*You will master with solvency all the concepts related to the expression of strength and its application in Cycling"*

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*This is your opportunity to analyze the benefits of strength training, focusing on the molecular or neuronal adaptation"*

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

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

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

*Want to take an in-depth look at methods for measuring strength in cycling? Then this Postgraduate Certificate is for you.*

*A specialization that will make you a reference in strategies to maximize adaptations in concurrent training.*



# 02 Objectives

TECH has designed this program based on a series of objectives that seek to provide the sports professional with the greatest specialization that can be developed in Cycling Strength Training, always based on the most innovative tools available. In addition, the degree is supported by a global approach that will allow the student to have the keys to enhance their performance through the planning and programming of these plans and exercises recommended by experts.







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*TECH's goal is the same as yours: to boost your career by making you a highly competitive cyclist with the most advanced strength training methodologies"*



## General Objectives

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- ◆ Understand the performance factors of sport and thus learn to assess the specific needs of each athlete
- ◆ To be able to plan, periodize and develop training programs for cyclists; in short, to enable students to exercise the coaching profession
- ◆ Acquire specific knowledge related to the biomechanics of cycling
- ◆ Understand the operation of new applications used in the quantification of loads and training La prescription
- ◆ Understand the benefits of strength training and be able to apply them in concurrent training
- ◆ Acquire a specialization in nutrition oriented to cycling
- ◆ Understand the functioning of cycling structures, as well as the modalities and categories of competitions





## Specific Objectives

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- ◆ Understand the concept of Velocity Based Training and its relationship with the character of the effort
- ◆ Address the different devices on the market for VBT-based workouts
- ◆ Study the benefits of concurrent trainingx

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*Thanks to the objectives set by the degree, you will be able to handle the different devices on the market to work on the basis of VBT"*

03

# Course Management

TECH has brought together to teach this program a powerful teaching staff that will provide everything the student needs and more to excel in this area. In this case, the experts have positioned themselves as referents when it comes to extracting the highest performance from sports professionals in cyclic disciplines. In fact, these professors have first-hand knowledge of the student's needs, as they have previously developed as elite athletes.





“

*Top elite athletes will guide you towards the most optimal strategies to increase your performance with strength training”*

## Management



### Mr. Sola, Javier

- ◆ CEO of Training4ll
- ◆ Coach of the WT UAE team
- ◆ Head of Performance Massi Tactic UCI Women's Team
- ◆ Biomechanics Area Specialist for Jumbo Visma UCI UCI WT
- ◆ WKO advisor for World Tour cycling teams
- ◆ Trainer at Coaches 4 Coaches
- ◆ Associate Professor at Loyola University
- ◆ Graduate in Physical Activity and Sport Sciences from the University of Seville
- ◆ Postgraduate Certificate in High Performance Cycling Sports from the Murcia University
- ◆ Level III Sports Director
- ◆ Numerous Olympic medals and medals in European Championships, World Cups and National Championships

## Professors

### Mr. Moreno Morillo, Aner

- ◆ Kuwait National Cycling Team Performance Manager
- ◆ Assistant of Euskaltel-Euskadi ProConti Team
- ◆ National Sports Director Level III
- ◆ Graduate in Physical Activity and Sport Sciences from the Isabel I University
- ◆ Master's Degree in CAFD Research from the European University
- ◆ Master's Degree in High Performance Cycling Sports from the Murcia University



# 04

# Structure and Content

With a global approach to meet any challenge in this area, the syllabus is another major strength of the Cycling Strength Training Postgraduate Certificate. In fact, this degree will significantly boost the student's academic performance based on multiple multimedia resources personally supervised by the teaching team. These include interactive summaries, case studies, supplementary readings, master classes and videos.





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*A syllabus meticulously supervised by experts with which you will focus on the starts or the Sprint on the bike"*

## Module 1. cyclist Strength Training

- 1.1. Strength Introduction
  - 1.1.1. Definition
  - 1.1.2. Concepts Related to Strength Expressions
  - 1.1.3. Strength and cycling
- 1.2. Benefits of strength training in the cyclist
  - 1.2.1. Molecular and physiological adaptation
  - 1.2.2. Neural adaptations
  - 1.2.3. Efficiency improvement
  - 1.2.4. Improved body composition
- 1.3. Methods for measuring strength
  - 1.3.1. Linear measurement systems
  - 1.3.2. Dynamometer
  - 1.3.3. Force and contact platforms
  - 1.3.4. Optical platforms and apps
- 1.4. Limitations
  - 1.4.1. Concept of RM
  - 1.4.2. Concept of NRM
  - 1.4.3. Effort character concept
- 1.5. Speed of Execution
  - 1.5.1. EC defined by the speed of execution
  - 1.5.2. Isoinertial evaluation of strength
  - 1.5.3. Force velocity / power curve
- 1.6. Planning and Programming of Strength Training
  - 1.6.1. Strength programming
  - 1.6.2. Programming of an exercise
  - 1.6.3. Programming of a session





- 1.7. Strength training on the bicycle
  - 1.7.1. Starts
  - 1.7.2. Sprints
  - 1.7.3. Neruomuscular work
  - 1.7.4. Is torque work equal to strength training?
- 1.8. Concurrent Training
  - 1.8.1. Definition
  - 1.8.2. Strategies to maximize adaptations
  - 1.8.3. Advantages and Disadvantages
- 1.9. Recommended exercises
  - 1.9.1. Generalities
  - 1.9.2. Specific
  - 1.9.3. Session example
- 1.10. Core Training
  - 1.10.1. Definition
  - 1.10.2. Benefits
  - 1.10.3. Mobility exercises
  - 1.10.4. Types of Exercise

“ Access 24 hours a day to the most advanced training material on this subject to put into practice the training exercises recommended by the teaching team”

# 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”*

## Case Study to contextualize all content

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

“

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



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



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

### A learning method that is different and innovative

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

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

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

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

## Relearning Methodology

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

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

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

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

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





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

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

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

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

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



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



### Study Material

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

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



### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



### Practising Skills and Abilities

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



### Additional Reading

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





#### Case Studies

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



#### Interactive Summaries

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

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



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



# 06 Certificate

The Postgraduate Certificate in Cycling Strength Training guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





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

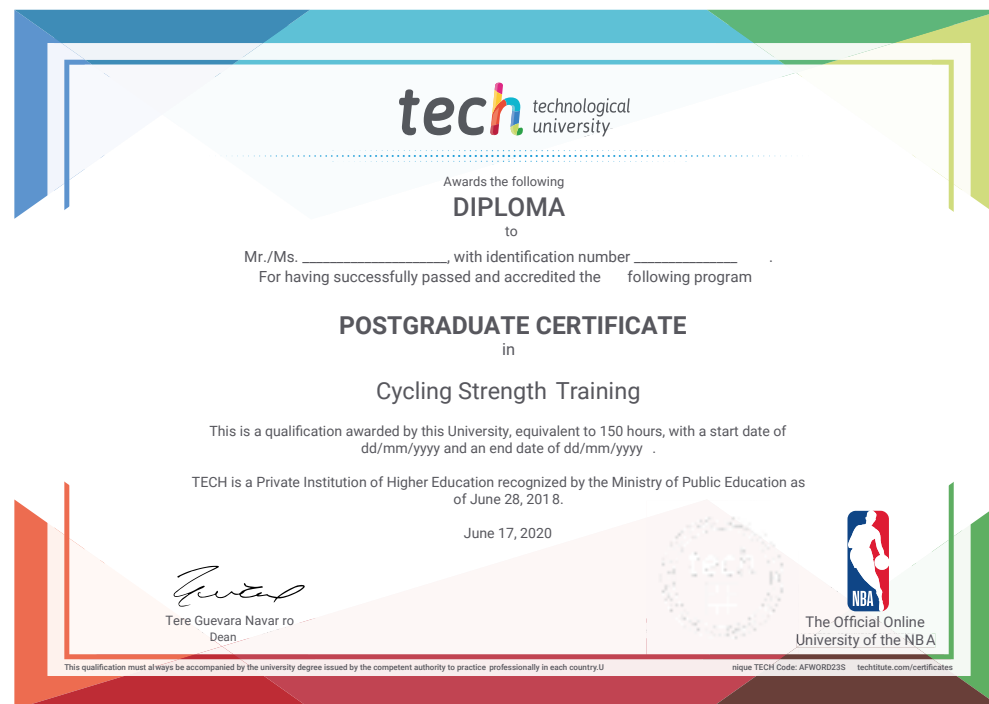
This **Postgraduate Certificate in Cycling Strength Training** contains the most complete and up-to-date program on the market.

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 evaluation committees.

**Title: Postgraduate Certificate in Cycling Strength Training**

**Official N° of Hours: 150 h.**



\*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.

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

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