

# Postgraduate Certificate

## Quantification of Loads in Professional Cyclist Training

Endorsed by the NBA





## Postgraduate Certificate Quantification of Loads in Professional Cyclist 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/quantification-loads-professional-cyclist-training](http://www.techtute.com/us/sports-science/postgraduate-certificate/quantification-loads-professional-cyclist-training)

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# 01

# Introduction

Load quantification is a fundamental issue in professional cycling training. In this line, the measurement and monitoring of the load to which the athlete is subjected allows both the athlete and the trainer to control the intensity, duration and frequency of the session. For this reason, the cyclist must consolidate their update in this relevant aspect of their professional practice in order to improve his performance, and this program is a great opportunity. Students will learn about the different load quantification models commonly used, as well as analyze the latest models that have emerged. All this and more in a 100% online format.







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*Thanks to this program you will tailor your loads to maximize performance and minimize the risk of injury”*

Today, there are numerous ways to quantify loads in cycling training, from the use of power meters to monitoring the professional's heart rate while training. In addition, other indicators such as speed, maximum heart rate, sweat rate, perceived load or accumulated fatigue can be used to obtain a complete picture of the load during the session.

Given that it is a determining factor in boosting the performance of the sports professional, TECH has designed a program that specifically addresses this subject, incorporating all recent advances. This will allow the student to quantify their loads with greater precision and based on advanced strategies that will benefit their sporting activity.

In this way, students will take a broad tour of the different existing quantification models, while examining emerging options that go far beyond the traditional ones. In addition, teachers will encourage sports professionals to perfect their skills in the use of training platforms such as TrainingPeaks or Today's Plan, deepening their metrics.

Undoubtedly, a specialization with the potential to boost the student's sports career, who will be advised by a fantastic teaching team of true eminences in this area. With only a device with an Internet connection, you will have access to innovative resources in the Online Campus that you will be able to consult without any type of restriction.

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

- ◆ The development of case studies presented by experts in load quantification in professional cycling training
- ◆ The graphic, schematic and eminently practical contents of the book provide sporting 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



*This is the opportunity you were looking for to analyze in detail the different models of load quantification in cycling"*

“ *You will be a leading cyclist in the use of training platforms such as TrainingPeaks or Today's Plan*”

*Only 150 hours separate you from the most up-to-date knowledge on load quantification. And you won't even have to leave home!*

*You have the opportunity to master all aspects related to the correlations between internal and external load.*

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

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

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



# 02 Objectives

The design of the program of this Postgraduate Certificate has been oriented to the successful acquisition of skills in the applicability of training loads in cycling, delving into their quantification strategies. So, students will analyze the close relationship between training load and performance, so that they have the keys to extract the maximum possible potential supported by advanced educational innovations.







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*Achieve the objectives TECH proposes in this program to manage the full implications of training loads on performance”*



## General Objectives

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- ◆ Understand the performance factors of sport and, therefore, learn to assess the specific needs of each athlete
- ◆ Be able to plan, periodize and develop training programs for cyclists, in short, to enable students to exercise the profession of coach
- ◆ Acquire specific knowledge related to the biomechanics of cycling
- ◆ Understand the operation of new applications used in load quantification and training 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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- ◆ Know what training load is and its applicability to cycling
- ◆ Know the relationship between training load and performance
- ◆ Learning and using new platforms to quantify and prescribe training

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*Don't miss the opportunity to establish the application factors and advantages of the ECO models thanks to this Postgraduate Certificate"*

03

# Course Management

In order to ensure that the development of students during the academic experience has all possible guarantees, TECH has made a firm commitment to renowned experts to shape the teaching staff. In this line, eminent experts in biomechanics, nutrition counseling or former elite athletes come together in the Postgraduate Certificate to enrich it with a multidisciplinary approach that will enable graduates to cope with any challenge.







“

*Specialists in biomechanics, nutrition counseling and former elite athletes come together in the program to provide you with all the keys you were looking for”*

## Management



### Mr. Sola, Javier

- ◆ CEO of Training4ll
- ◆ WT UAE Team Coach
- ◆ Massi Tactic UCI Women's Team Performance Manager
- ◆ Specialist in the biomechanical area of Jumbo Visma UCI WT
- ◆ WKO advisor to World Tour cycling teams
- ◆ Trainer at Coaches4coaches
- ◆ Associate Professor at Loyola University
- ◆ Degree in Physical Activity and Sports Sciences from the University of Seville.
- ◆ Postgraduate Degree in High Performance Cycling Sports from the University of Murcia.
- ◆ Sports Director Level III
- ◆ Numerous Olympic medals and medals at European championships, World Cups and national championships

## Professors

### Mr. Celdrán, Raúl

- ◆ CEO of Natur Training System
- ◆ Burgos BH ProConti Team Nutrition Manager
- ◆ Performance manager of the professional MTB team Klimatiza Team
- ◆ Trainer at Coaches4coaches
- ◆ Degree in Pharmacy from the University of Alcalá, Spain
- ◆ Master's Degree in Nutrition, Obesity and High Performance in Cyclic Sports from the University of Navarra

### Mr. Heijboer, Mathieu

- ◆ WT Jumbo-Visma team performance manager
- ◆ Trainer of high-level cyclists
- ◆ Former professional cyclist
- ◆ Degree in CAFD





# 04

## Structure and Content

Throughout 150 hours distributed in 6 weeks, the sports professional will develop within a complete educational cycle in which they will enjoy a much more innovative academic experience than traditional teaching. TECH has opted for a study methodology that goes beyond mere memorization, as videos, interactive diagrams, complementary readings and case studies will help you assimilate key concepts with greater ease.







“

*Banister's model, TRIMP's model... the main models of load quantification are included in this innovative courseware"*

## Module 1. Load distribution

- 1.1. Traditional quantification model
  - 1.1.1. Definition of quantification
  - 1.1.2. Three-phase model
  - 1.1.3. Advantages and Disadvantages
- 1.2. Banister Model
  - 1.2.1. Definition
  - 1.2.2. Why this model
  - 1.2.3. Second Banister model
- 1.3. TRIMP model
  - 1.3.1. Definition
  - 1.3.2. Application factors
  - 1.3.3. Advantages and Disadvantages
- 1.4. Lucia TRIMPs
  - 1.4.1. Definition
  - 1.4.2. Application factors
  - 1.4.3. Advantages and Disadvantages
- 1.5. CTL, ATL and TSB
  - 1.5.1. Definition
  - 1.5.2. Application factors
  - 1.5.3. Advantages and Disadvantages
- 1.6. ECOs Model
  - 1.6.1. Definition
  - 1.6.2. Application factors
  - 1.6.3. Advantages and Disadvantages
- 1.7. Quantification based on sRPE
  - 1.7.1. Definition
  - 1.7.2. Application factors
  - 1.7.3. Advantages and Disadvantages
- 1.8. Training Peaks
  - 1.8.1. Explanation of the platform
  - 1.8.2. Characteristics and Functions
  - 1.8.3. Advantages and Disadvantages





- 1.9. Quantification of training in professional cycling
  - 1.9.1. Communication as a daily basis
  - 1.9.2. Quantification models
  - 1.9.3. Limitations
- 1.10. Teun Van Erp and Daho Sanders Ph.D. Thesis
  - 1.10.1. Quantification of professional competitions
  - 1.10.2. Correlations between internal and external load
  - 1.10.3. Limitations

“Specialize from home with a multidisciplinary curriculum thanks to the varied profiles of the teaching staff”



# 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.

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*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.



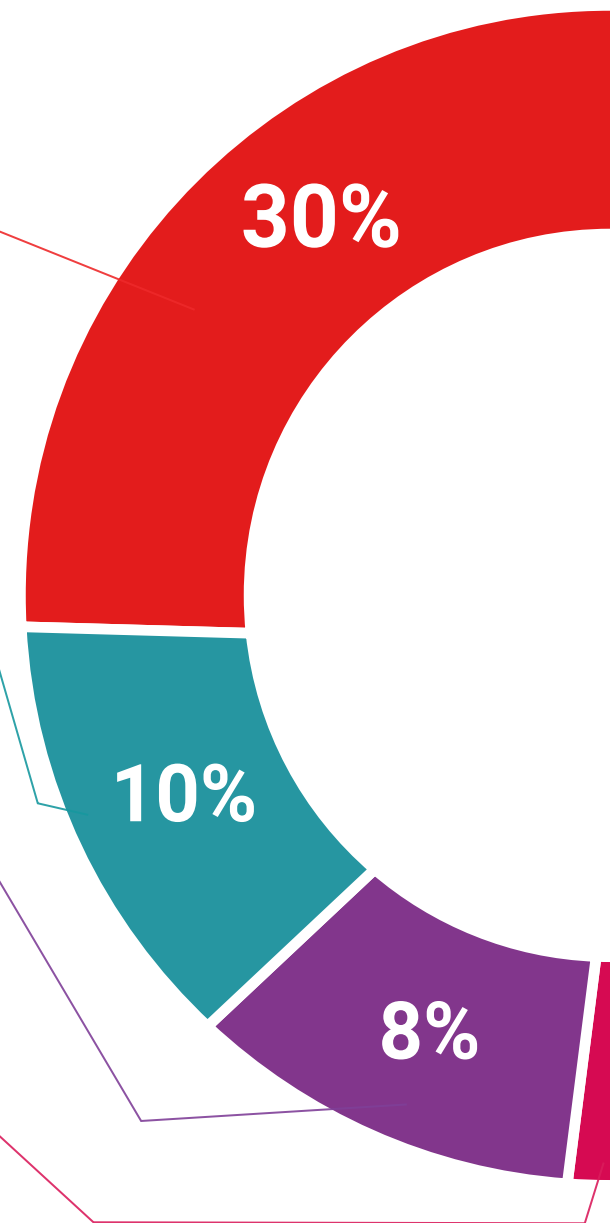
### Practising Skills and Abilities

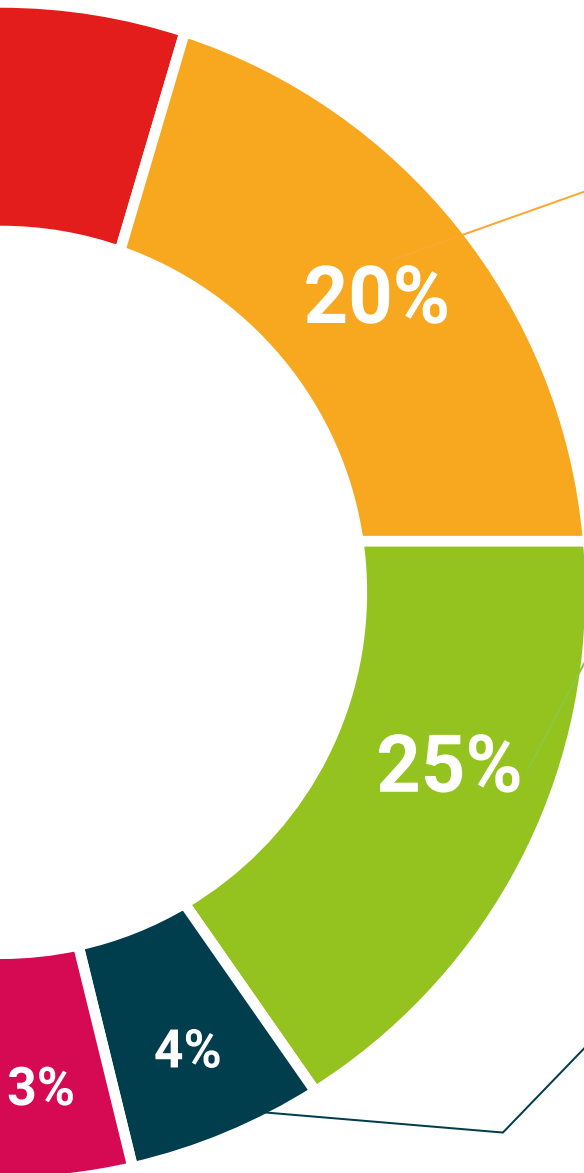
They will carry out activities to develop specific competencies and skills in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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 Quantification of Loads in Professional Cyclist Training 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 Quantification of Loads in Professional Cyclist 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 Quantification of Loads in Professional Cyclist Training**

Official N° of Hours: **150 h.**

**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.



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

**tech** technological  
university

**Postgraduate Certificate**  
Quantification of Loads in  
Professional Cyclist Training

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

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