

# Postgraduate Certificate Endurance Training from Theory to Practice

Endorsed by the NBA



**tech** technological  
university



## Postgraduate Certificate Endurance Training from Theory to Practice

- » 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/endurance-training-theory-practice](http://www.techtitute.com/in/sports-science/postgraduate-certificate/endurance-training-theory-practice)

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# 01 Introduction

With this specialization the student will learn various tools to assess and monitor the physical performance of the athlete, and to plan or schedule training aimed at the development of aerobic endurance, with guarantees of success.

In this module the student will not only find all the theoretical support based on the most current scientific evidence, but will also obtain a clear practical descent to the real training field, which makes it a module of vital importance in their academic education.



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*The most up-to-date academic specialization  
taught by extraordinary teachers experienced  
in the world of sports and academia"*



In this Postgraduate Certificate you will find detailed training on key aspects of sports performance, treated with a unique didactic and depth in the current academic offer. Each subject will be taught by true specialists in the field, which guarantees the highest level of knowledge in the subject.

This Postgraduate Certificate in Endurance Training from Theory to Practice will provide the student with theoretical contents of the highest quality and depth. One of the characteristics that differentiate this course from others is the relationship between the different topics of the program at a theoretical level but, above all, at a practical level, making the student obtain real examples of teams and athletes of the highest sports performance worldwide, as well as from the professional world of sports, resulting in the student being able to build knowledge in the most complete way.

Another strong point of this Postgraduate Certificate in Endurance Training from Theory to Practice is the training of the student in the use of new technologies applied to Sports Performance. The student will not only learn about new technology in the field of performance, but will learn how to use it and, more importantly, how to interpret the data provided by each device to make better decisions regarding training programming.

The teaching staff of this Postgraduate Certificate in Endurance Training from Theory to Practice has made a careful selection of each of the topics of this training 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 Postgraduate Certificate with a rich content that will help you reach the elite of High Performance Sports. 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 Endurance Training from Theory to Practice** contains the most complete and up-to-date educational program on the market. The most important features include:

- ◆ The study of numerous case studies presented by specialists in high-performance sports 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



*Immerse yourself in the study of this high level course and improve your skills in High Performance Sports"*

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*This Postgraduate Certificate is the best investment you can make when selecting a refresher program, for two reasons: in addition to updating your knowledge as a personal trainer, you will obtain a certificate from one of the leading online universities in the world: TECH"*

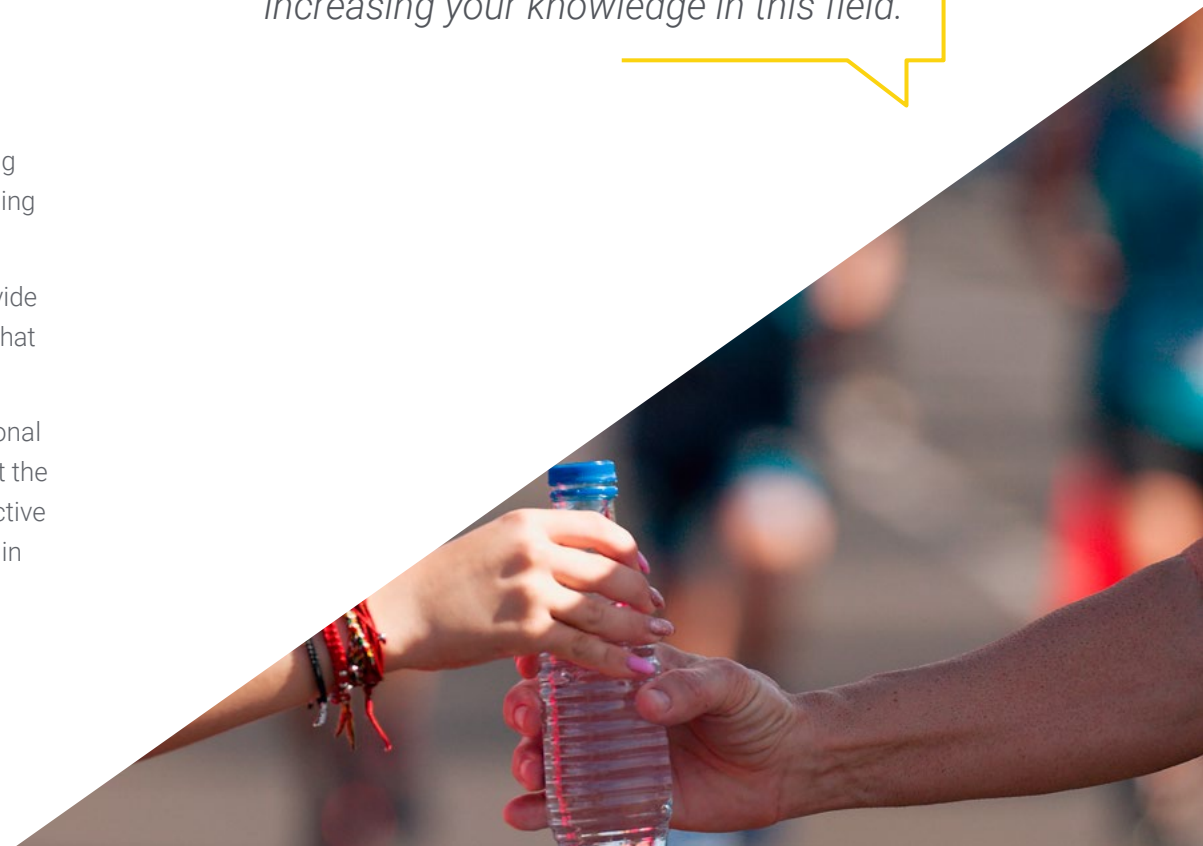
The teaching staff includes professionals from the field of sports science, who bring their experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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 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 professional will be assisted by an innovative interactive video system created by renowned, and experienced experts in High Performance in Sports with extensive experience.

*This course allows training in simulated environments, which provide immersive learning programmed to train for real situations.*

*This 100% online Postgraduate Certificate will allow you to balance 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 sports science professional can master in a practical and rigorous way the new developments in High Performance in 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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- ◆ Master and apply with certainty the most current training methods to improve sports performance
- ◆ To effectively master statistics and thus be able to make a correct use of the data obtained from the athlete, as well as to initiate research processes
- ◆ Acquire knowledge based on the most current scientific evidence with full applicability in the practical field
- ◆ To master all the most advanced methods of sports performance evaluation
- ◆ Master the principles governing Exercise Physiology, as well as Biochemistry
- ◆ Master the principles governing Biomechanics applied directly to Sports Performance
- ◆ Master the principles governing Nutrition applied to sports performance
- ◆ Successfully integrate all the knowledge acquired in the different modules in real practice





## Specific Objectives

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- ◆ Study the different adaptations generated by aerobic endurance
- ◆ Apply the physical demands of situational sports
- ◆ Select the most appropriate tests to evaluate, monitor, tabulate and fractionate aerobic workloads
- ◆ Carry out the different methods to organize training sessions
- ◆ Design training sessions taking into account the sport

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



# 03 Course Management

Our teaching team, with a Postgraduate Certificate in High Performance in Sports, has a wide 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 recent innovations in the subject that will allow you to train and improve your skills in this sector.





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

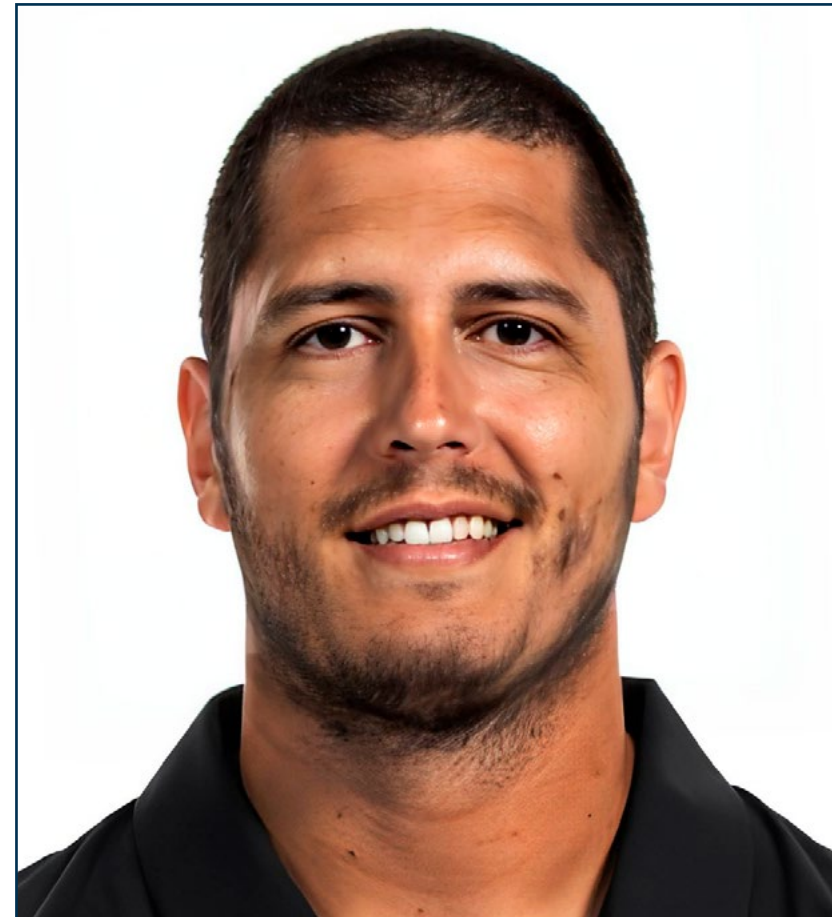
## International Guest Director

Tyler Friedrich, Ph.D., is a leading personality in the international field of Sports Performance and Applied Sports Science. With a strong academic background, he has demonstrated an exceptional commitment to excellence and innovation, and has contributed to the success of numerous elite athletes internationally.

Throughout his career, Tyler Friedrich has deployed his expertise in a wide range of sporting disciplines, from football to swimming, volleyball to field hockey. His work in performance data analysis, especially through the Catapult athlete GPS system, and his integration of sports technology into performance programs, has established him as a leader in athletic performance optimization.

As Director of Sports Performance and Applied Sports Science, Dr. Friedrich has led strength and conditioning training, as well as the implementation of specific programs for several Olympic sports, including volleyball, rowing and gymnastics. Here, he has been responsible for integrating equipment services, sports performance in soccer and sports performance in Olympic sports. In addition, incorporating DAPER sports nutrition within an athlete performance team.

Also certified by USA Weightlifting and the National Strength and Conditioning Association, he is recognized for his ability to combine theoretical and practical knowledge in the development of high performance athletes. In this way, Dr. Tyler Friedrich has left an indelible mark on the world of Sports Performance, being an outstanding leader and driver of innovation in his field.





## Dr. Friedrich, Tyler

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- Director of Sports Performance and Applied Sports Science at Stanford University
- Sports Performance Specialist
- Associate Director of Athletics and Applied Performance at Stanford University
- Director of Olympic Sport Performance at Stanford University
- Sports Performance Coach at Stanford University
- Ph.D. in Philosophy, Health and Human Performance from Concordia University Chicago
- Master of Science in Exercise Science from the University of Dayton
- Bachelor of Science, Exercise Physiology from the University of Dayton

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*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Address



### 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
- ◆ Certification in Weight Management and Physical Performance Technologies
- ◆ Postgraduate course in Physical Activity in Populations with Pathologies
- ◆ Diploma in Advanced Studies (DEA) University of Castilla la Mancha
- ◆ PhD Candidate in ARD

## Professors

### García, Gastón

- ◆ Degree in Physical Education
- ◆ Endurance Training Specialist
- ◆ Lecturer in many congresses and symposiums





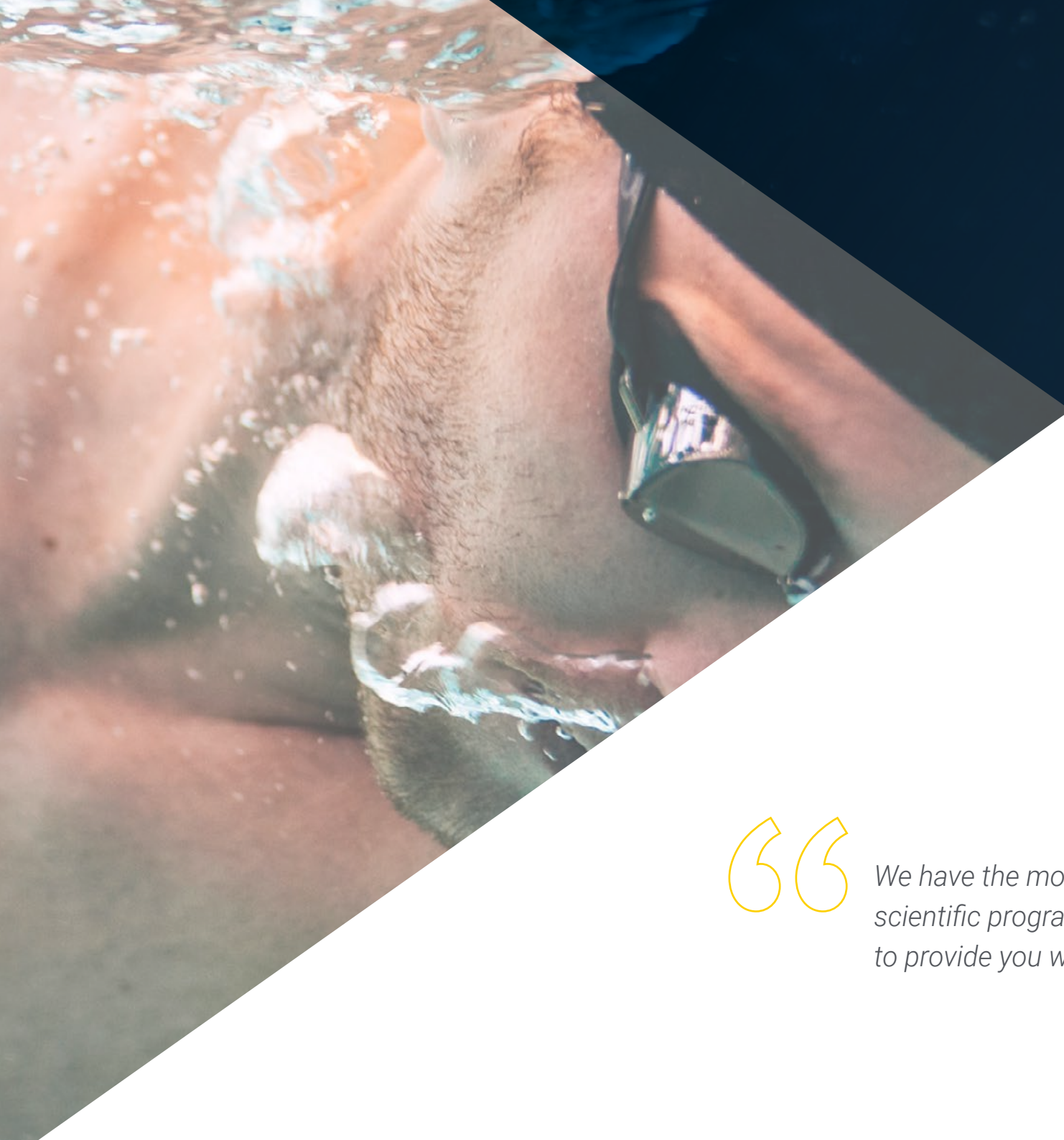


04

# Structure and Content

The structure of the contents has been designed by a team of professionals who recognise the implications that training has on daily practice, who are aware of the relevance from current quality training in the field of High Performance in Sports ; and are committed to quality teaching using new educational technologies.





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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. Endurance Training from Theory to Practice

- 1.1. General concepts
  - 1.1.1. General Definitions
    - 1.1.1.1. Education
    - 1.1.1.2. Trainability
    - 1.1.1.3. Sports Physical Preparation
  - 1.1.2. Objectives Endurance Training
  - 1.1.3. General Principles of Training
    - 1.1.3.1. Principles of Load
    - 1.1.3.2. Principles of Organization
    - 1.1.3.3. Principles of Specialization
- 1.2. Physiology of Aerobic Training
  - 1.2.1. Physiological Response to Aerobic Endurance Training
    - 1.2.1.2. Responses to Continuous Stress
    - 1.2.1.3. Responses to Intervallic Stress
    - 1.2.1.4. Responses to Intermittent Stress
    - 1.2.1.5. Responses to Stress in Small-Space Games
  - 1.2.2. Factors Related to Aerobic Endurance Performance
    - 1.2.2.1. Aerobic Power
    - 1.2.2.2. Anaerobic Threshold
    - 1.2.2.3. Maximum Aerobic Speed
    - 1.2.2.4. Economy of Effort
    - 1.2.2.5. Use of Substrates
    - 1.2.2.6. Characteristics of Muscle Fibers
  - 1.2.3. Physiological Adaptations to Aerobic Endurance
    - 1.2.3.1. Adaptations to Continuous Stress
    - 1.2.3.2. Adaptations to Intervallic Stress
    - 1.2.3.3. Adaptations to Intermittent Stress
    - 1.2.3.4. Adaptations to Stress in Small-Space Games





- 1.3. Situational Sports and Their Relation to Aerobic Endurance
  - 1.3.1. Group I Situational Sport Demands; Soccer, Rugby and Hockey
  - 1.3.2. Group II Situational Sport Demands; Basketball, Handball, Futsal
  - 1.3.3. Group III Situational Sport Demands; Tennis and Volleyball
- 1.4. Monitoring and Assessment of Aerobic Endurance
  - 1.4.1. Direct Treadmill Versus Field Evaluation
    - 1.4.1.1. VO<sub>2</sub>max Treadmill Versus Field
    - 1.4.1.2. VAM Treadmill Versus Field
    - 1.4.1.3. VAM versus VFA
    - 1.4.1.4. Time Limit (VAM)
  - 1.4.2. Continuous Indirect Tests
    - 1.4.2.1. Time Limit (VFA)
    - 1.4.2.2. 1,000m Test
    - 1.4.2.3. 5-Minute Test
  - 1.4.3. Incremental and Maximum Indirect Tests
    - 1.4.3.1. UMTT, UMTT-Brue, VAMEVAL and T-Bordeaux
    - 1.4.3.2. UNCa Test; Hexagon, Track, Hare
  - 1.4.4. Indirect Back-and-Forth and Intermittent Tests
    - 1.4.4.1. 20m Shuttle Run Test (Course Navette)
    - 1.4.4.2. YoYo Test
    - 1.4.4.3. Intermittent Tests; 30-15 IFT, Carminatti, 45-15. Test
  - 1.4.5. Specific Tests With Ball
    - 1.4.5.1. Hoff Test
  - 1.4.6. Proposal Based on the VFA
    - 1.4.6.1. VFA Contact Points for Football, Rugby and Hockey
    - 1.4.6.2. VFA Contact Points for Basketball, Futsal and Handball
- 1.5. Planning Aerobic Exercise
  - 1.5.1. Exercise Model
  - 1.5.2. Training Frequency
  - 1.5.3. Duration of the Exercise
  - 1.5.4. Training Intensity
  - 1.5.5. Density
- 1.6. Methods to Develop Aerobic Endurance
  - 1.6.1. Continuous Training
  - 1.6.2. Interval Training
  - 1.6.3. Intermittent Training
  - 1.6.4. SSG Training (Small-Space Games)
  - 1.6.5. Mixed Training (Circuits)
- 1.7. Program Design
  - 1.7.1. Preseason Period
  - 1.7.2. Competitive Period
  - 1.7.3. Postseason Period
- 1.8. Special Aspects Related to Training
  - 1.8.1. Concurrent Training
  - 1.8.2. Strategies to Design Concurrent Training
  - 1.8.3. Adaptations Generated by Concurrent Training
  - 1.8.4. Differences Between Genders
  - 1.8.5. De-Training
- 1.9. Aerobic Training in Children and Youth
  - 1.9.1. General concepts
    - 1.9.1.1. Growth, Development and Maturation
  - 1.9.2. Evaluation of VO<sub>2</sub>max and VAM
    - 1.9.2.1. Indirect Measurement
    - 1.9.2.2. Indirect Field Measurement
  - 1.9.3. Physiological Adaptations in Children and Youth
    - 1.9.3.1. VO<sub>2</sub>max and VAM Adaptations
  - 1.9.4. Design of Aerobic Training
    - 1.9.4.1. Intermittent Method
    - 1.9.4.2. Adherence and Motivation
    - 1.9.4.3. Games in Small Spaces

# 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

This Postgraduate Certificate in Sports Performance Assessment, 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 Endurance Training from Theory to Practice** 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 certificate 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 Endurance Training from Theory to Practice**

Official Number of Hours: **150 h.**

Endorsed by the NBA



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





## Postgraduate Certificate

Endurance Training from  
Theory to Practice

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

# Postgraduate Certificate Endurance Training from Theory to Practice

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university