

Postgraduate Diploma

High Performance in Sports: Strength,
Speed and Endurance Training

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tech universidad
tecnológica



Postgraduate Diploma High Performance in Sports: Strength, Speed and Endurance Training

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

Website: www.techtitute.com/us/ciencias-del-deporte/experto-universitario/experto-alto-rendimiento-deportivo-entrenamiento-fuerza-velocidad-resistencia

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01 Introduction

We are in the age of knowledge, more precisely in the age of specialization where every thousandth of a second or every gram of weight lifted is decisive in the world of High Performance. From this premise arises the creation of this program in High Performance Sports: Strength, Speed and Endurance Training, unique in its content, which is essential for an incursion into the world of sports performance with guarantees of success, with the security and criteria so that the graduate student knows what he/she is doing and why.





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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 Diploma you will find detailed training on key aspects of sports performance, treated with a unique didactic and depth in the current academic offer.

Each module will be taught by true specialists in the field, which guarantees the highest level of knowledge in the subject.

This Postgraduate Diploma in High Performance in Sports: Strength, Speed and Endurance Training will provide the student with high quality and in-depth theoretical content in each module. One of the characteristics that differentiate this Postgraduate Diploma from others is the relationship between the different topics of the modules at a theoretical level, but above all at a practical level so that the student obtains 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 Diploma in High Performance in Sports: Strength, Speed and Endurance Training is the student's specialization 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 team of this Postgraduate Diploma in High Performance in Sports: Strength, Speed and Endurance Training has made a careful selection of each of the topics of this specialization 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 Diploma with a rich content that will help you reach the elite of High Performance in Sports. In addition, as it is an online Postgraduate Diploma, 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 Diploma in High Performance in Sports: Strength, Speed and Endurance Training** 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 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.
- ◆ Its special emphasis on innovative methodologies in personal training for injury recovery and nutrition
- ◆ 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 Postgraduate Diploma and improve your skills in High Performance in Sports"

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This Postgraduate Diploma 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 TECH”

The teaching staff includes professionals from the field of sports science, who bring their experience to this specialization 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 learning programmed to study 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 renowned and experienced experts in injury rehabilitation and functional recovery exercises.

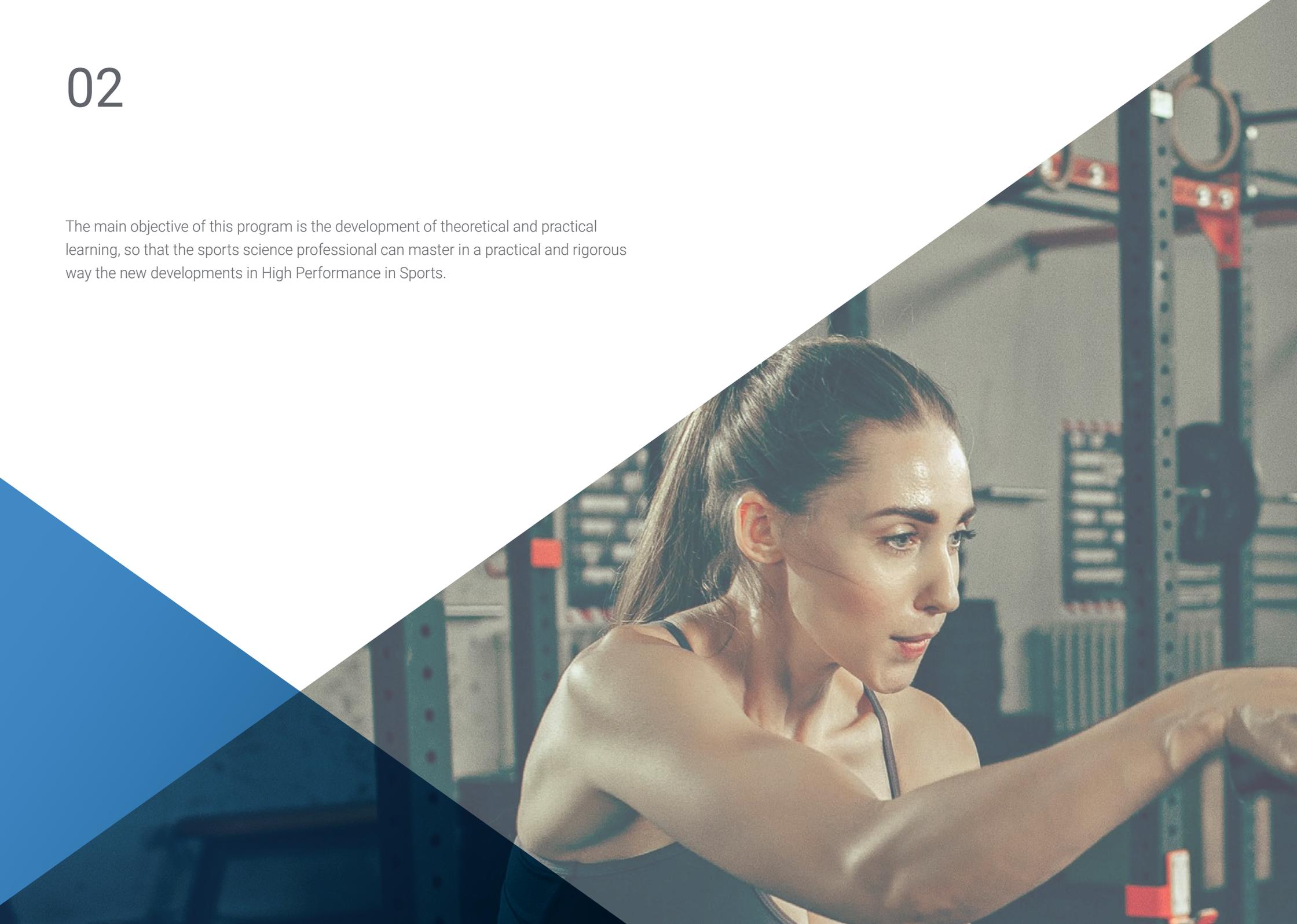
The Postgraduate Diploma offers training in simulated environments, which provides an immersive learning experience designed to train for real-life situations.

This 100% online Postgraduate Diploma will allow you to balance your studies with your professional work while expanding your knowledge in this field.



02

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

- ◆ 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

Module 1. Strength Training from Theory to Practice

- ◆ Correctly interpret all theoretical aspects defining strength and its components
- ◆ Master the most effective strength training methods
- ◆ Develop sufficient criteria to be able to support the choice of different training methods in their practical application
- ◆ Be able to objectify the strength needs of each athlete
- ◆ Master the theoretical and practical aspects that define power development
- ◆ Correctly apply strength training in the prevention and rehabilitation of injuries

Module 2. Speed Training from Theory to Practice

- ◆ Interpret the key aspects of speed and change of direction technique
- ◆ Compare and differentiate the speed of situational sport with respect to the track and field model
- ◆ Incorporate elements of judgment of technical observation that make it possible to discriminate errors in the mechanics of the race and the procedures for their correction
- ◆ Become familiar with the myoenergetic aspects of single and repeated sprinting and how they relate to training processes
- ◆ Differentiate the mechanical aspects that may influence performance impairment and the mechanisms of injury occurrence when sprinting
- ◆ To apply in an analytical way the different means and methods of training for the development of the different phases of speed
- ◆ Program speed training in situational sports

Module 3: Endurance Training from Theory to Practice:

- ◆ 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



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

03 Course

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. For this reason, they have developed this Postgraduate Diploma with recent updates on the subject that will allow you to train and increase your skills in this sector.





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

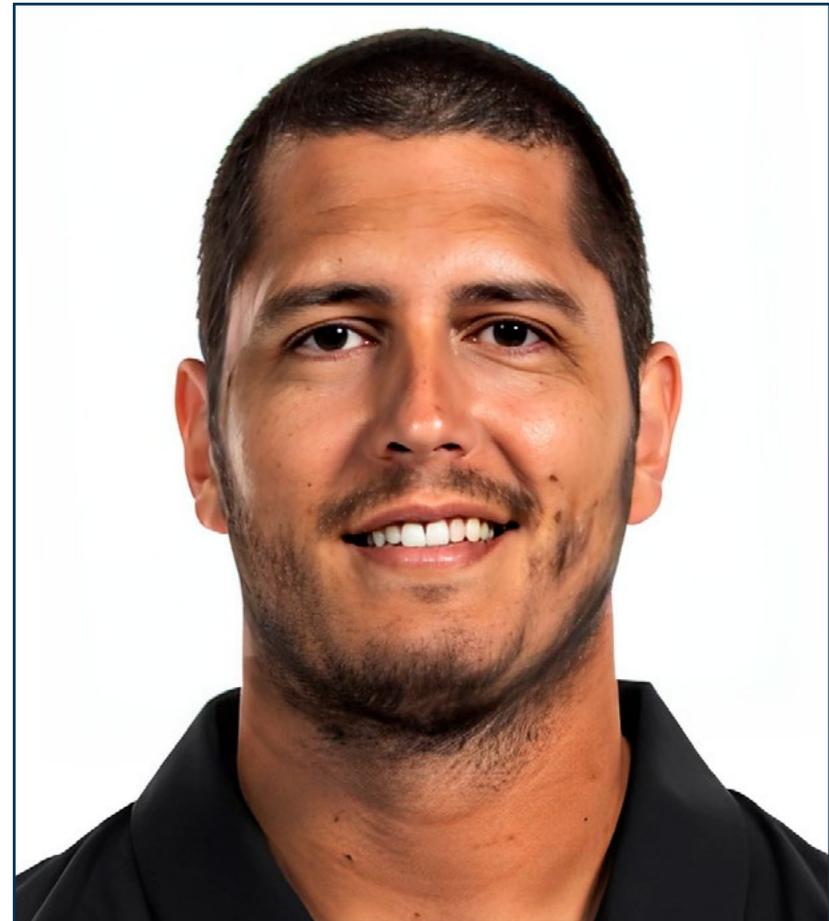
International Guest Director

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

- 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

Añon, Pablo

- ◆ Master's Degree in ARD COE, CSCS - NASCA
- ◆ Physical trainer of the National Volleyball team that will attend the next Olympic Games

García, Gastón

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



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Our teaching team will provide you with all their knowledge so that you are up to date with the latest information on the subject"

04 Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable about the implications of training in daily practice, aware of the current relevance of quality education in the field of personal training; and committed to quality teaching through 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. Strength Training from Theory to Practice

- 1.1. Strength: Conceptualization
 - 1.1.1. Strength Defined from a Mechanical Point of View
 - 1.1.2. Strength Defined from a Physiology Point of View
 - 1.1.3. Define the Concept of Applied Strength
 - 1.1.4. Time-Strength Curve
 - 1.1.4.1. Interpretation
 - 1.1.5. Define the Concept of Maximum Strength
 - 1.1.6. Define the Concept of RFD
 - 1.1.7. Define the Concept of Useful Strength
 - 1.1.8. Strength- Speed-Power Curves
 - 1.1.8.1. Interpretation
 - 1.1.9. Define the Concept of Strength Deficit
- 1.2. Training Load
 - 1.2.1. Define the Concept of Strength Training Load
 - 1.2.2. Define the Concept of Load
 - 1.2.3. Load Concept: Volume
 - 1.2.3.1. Definition and Applicability in Practice
 - 1.2.4. Load Concept: Intensity
 - 1.2.4.1. Definition and Applicability in Practice
 - 1.2.5. Load Concept: Density
 - 1.2.5.1. Definition and Applicability in Practice
 - 1.2.6. Define the Concept of Effort Character
 - 1.2.6.1. Definition and Applicability in Practice
- 1.3. Strength Training in the Prevention and Rehabilitation of Injuries
 - 1.3.1. Conceptual and Operational Framework in Injury Prevention and Rehabilitation
 - 1.3.1.1. Terminology.
 - 1.3.1.2. Concepts
 - 1.3.2. Strength Training and Injury Prevention and Rehabilitation Under Scientific Evidence
 - 1.3.3. Methodological Process of Strength Training in Injury Prevention and Functional Recovery
 - 1.3.3.1. Defining the Method
 - 1.3.3.2. Applying the Method in Practice
 - 1.3.4. Role of Core Stability (CORE) in Injury Prevention
 - 1.3.4.1. Definition of CORE
 - 1.3.4.2. CORE Training
- 1.4. Plyometric Method
 - 1.4.1. Physiological Mechanisms
 - 1.4.1.1. Specific General Information
 - 1.4.2. Muscle Actions in Plyometric Exercises
 - 1.4.3. The Stretch-Shortening Cycle (SSC)
 - 1.4.3.1. Use of Energy or Elastic Capacity
 - 1.4.3.2. Reflex Involvement Series and Parallel Elastic Energy Accumulation
 - 1.4.4. CEA Classification Scheme
 - 1.4.4.1. Short CEA
 - 1.4.4.2. Long CEA
 - 1.4.5. Properties of the Muscle and Tendon
 - 1.4.6. Central Nervous System
 - 1.4.6.1. Recruitment
 - 1.4.6.2. Frequency (F)
 - 1.4.6.3. Synchronization
 - 1.4.7. Practical Considerations
- 1.5. Power Training
 - 1.5.1. Definition of Power
 - 1.5.1.1. Conceptual Aspects of Power
 - 1.5.1.2. The Importance of Power in a Context of Sport Performance
 - 1.5.1.3. Clarification of Power Terminology
 - 1.5.2. Factors Contributing to Peak Power Development
 - 1.5.3. Structural Aspects Conditioning Power Production
 - 1.5.3.1. Muscle Hypertrophy
 - 1.5.3.2. Muscle Structure
 - 1.5.3.3. Ratio of Fast and Slow Fibers in a Cross Section
 - 1.5.3.4. Muscle Length and its Effect on Muscle Contraction
 - 1.5.3.5. Quantity and Characteristics of Elastic Components
 - 1.5.4. Neural Aspects Conditioning Power Production



- 1.5.4.1. Action Potential
- 1.5.4.2. Speed of Motor Unit Recruitment
- 1.5.4.3. Muscle Coordination
- 1.5.4.4. Intermuscular Coordination
- 1.5.4.5. Prior Muscle Status (PAP)
- 1.5.4.6. Neuromuscular Reflex Mechanisms and Their Incidence
- 1.5.5. Theoretical Aspects for Understanding the Strength-Time Curve
 - 1.5.5.1. Strength Impulse
 - 1.5.5.2. Phases of the Strength-Time Curve
 - 1.5.5.3. Phases of Acceleration in the Strength-Time Curve
 - 1.5.5.4. Maximum Acceleration Area of the Strength-Time Curve
 - 1.5.5.5. Deceleration Phase of the Strength-Time Curve
- 1.5.6. Theoretical Aspects for Understanding Power Curves
 - 1.5.6.1. Energy-Time Curve
 - 1.5.6.2. Energy-Displacement Curve
 - 1.5.6.3. Optimal Workload for Maximum Power Development
- 1.5.7. Practical Considerations
- 1.6. Vector Strength Training
 - 1.6.1. Definition of Force Vector
 - 1.6.1.1. Axial Vector
 - 1.6.1.2. Horizontal Vector
 - 1.6.1.3. Rotational Vector
 - 1.6.2. Benefits of Using this Terminology
 - 1.6.3. Definition of Basic Vectors in Training
 - 1.6.3.1. Analysis of the Main Sporting Actions
 - 1.6.3.2. Analysis of the Main Overload Exercises
 - 1.6.3.3. Analysis of the Main Training Exercises
 - 1.6.4. Practical Considerations
- 1.7. Main Methods for Strength Training

- 1.7.1. Own Body Weight
- 1.7.2. Free Exercises
- 1.7.3. P.A.P.
 - 1.7.3.1. Definition
 - 1.7.3.2. Application of PAP Prior to Energy-Related Sports Disciplines
- 1.7.4. Exercises with Machines
- 1.7.5. Complex Training
- 1.7.6. Exercises and Their Transfer
- 1.7.7. Contrasts
- 1.7.8. Cluster Training
- 1.7.9. Practical Considerations
- 1.8. VBT
 - 1.8.1. Conceptualization of the Application of VBT
 - 1.8.1.1. Degree of Stability of Execution Speed with Each Percentage of 1MR
 - 1.8.2. Difference Between Scheduled Load and Actual Load
 - 1.8.2.1. Definition of the Concept
 - 1.8.2.2. Variables Involved in the Difference Between Programmed Load and Actual Training Load
 - 1.8.3. VBT as a Solution to the Problem of Using 1MR and nMR to Program Loads
 - 1.8.4. VBT and Degree of Fatigue
 - 1.8.4.1. Connection to Lactate
 - 1.8.4.2. Connection to Ammonium
 - 1.8.5. VBT in Relation to the Loss of Speed and Percentage of Repetitions Performed
 - 1.8.5.1. Define the Different Degrees of Effort in the Same Series
 - 1.8.5.2. Different Adaptations According to the Degree of Speed Loss in the Series
 - 1.8.6. Methodological Proposals According to Different Authors
 - 1.8.7. Practical Considerations
- 1.9. Strength in Connection to Hypertrophy
 - 1.9.1. Hypertrophy-Inducing Mechanism: Mechanical Stress
 - 1.9.2. Hypertrophy-Inducing Mechanism: Metabolic Stress
 - 1.9.3. Hypertrophy-Inducing Mechanism: Muscle Damage
 - 1.9.4. Hypertrophy Programming Variables
 - 1.9.4.1. Frequency (F)
 - 1.9.4.2. Volume
 - 1.9.4.3. Intensity
 - 1.9.4.4. Cadence
 - 1.9.4.5. Series and Repetitions
 - 1.9.4.6. Density
 - 1.9.4.7. Order in the Execution of Exercises
 - 1.9.5. Training Variables and Their Different Structural Effects
 - 1.9.5.1. Effect on Different Types of Fiber
 - 1.9.5.2. Effects on the Tendon
 - 1.9.5.3. Bundle Length
 - 1.9.5.4. Angle of Pennea
 - 1.9.6. Practical Considerations
- 1.10. Eccentric Strength Training
 - 1.10.1. Conceptual framework
 - 1.10.1.1. Definition of Eccentric Training
 - 1.10.1.2. Different Types of Eccentric Training
 - 1.10.2. Eccentric Training and Performance
 - 1.10.3. Eccentric Training in the Prevention and Rehabilitation of Injuries
 - 1.10.4. Technology Applied to Eccentric Training
 - 1.10.4.1. Conical Pulleys
 - 1.10.4.2. Isoinertial Devices
 - 1.10.5. Practical Considerations

Module 2. Speed Training from Theory to Practice

- 2.1. Speed

- 2.1.3. Definition
- 2.1.4. General concepts
 - 2.1.4.1. Manifestations of Speed
 - 2.1.4.2. Factors that Determine Performance
 - 2.1.4.3. Difference Between Speed and Quickness
 - 2.1.4.4. Segmental Speed
 - 2.1.4.5. Angular Speed
 - 2.1.4.6. Reaction Time
- 2.2. Dynamics and Mechanics of Linear Sprint (100m Model)
 - 2.2.1. Kinematic Analysis of the Take-off
 - 2.2.2. Dynamics and Strength Application During Take-off
 - 2.2.3. Kinematic Analysis of the Acceleration Phase
 - 2.2.4. Dynamics and Strength Application During Acceleration
 - 2.2.5. Kinematic Analysis of Running at Maximum Speed
 - 2.2.6. Dynamics and Strength Application During Maximum Speed
- 2.3. Phases of Sprinting (Technique Analysis)
 - 2.3.4. Technical Description of the Take-off
 - 2.3.5. Technical Description of the Race During the Acceleration Phase
 - 2.3.5.1. Technical Model of the Kinogram for the Acceleration Phase
 - 2.3.6. Technical Description of the Race During the Maximum Speed Phase
 - 2.3.6.1. Technical Kinogram Model (ALTIS) for Technique Analysis
 - 2.3.7. Speed Endurance
- 2.4. Speed Bioenergetics
 - 2.4.1. Bioenergetics of Single Sprints
 - 2.4.1.1. Myoenergetics of Single Sprints
 - 2.4.1.2. ATP-PC System
 - 2.4.1.3. Glycolytic System
 - 2.4.1.4. Adenylate Kinase Reaction
 - 2.4.2. Bioenergetics of Repeated Sprints
 - 2.4.2.1. Energy Comparison Between Single and Repeated Sprints
 - 2.4.2.2. Behavior of Energy Production Systems During Repeated Sprints
 - 2.4.2.3. Recovery of PC
 - 2.4.2.4. Connection Between Aerobic Power and Recovery Processes of PC
 - 2.4.2.5. Determinants of Performance in Repeated Sprints
- 2.5. Analysis of Acceleration Technique and Maximum Speed in Team Sports
 - 2.5.1. Description of the Technique in Team Sports
 - 2.5.2. Comparison of Sprinting Technique in Team Sports vs. Athletic Events
 - 2.5.3. Timing and Motion Analysis of Speed Events in Team Sports
- 2.6. Methodological Approach to Teaching the Technique
 - 2.6.1. Technical Teaching of the Different Phases of the Race
 - 2.6.2. Common Errors and Ways to Correct Them
- 2.7. Means and Methods for Speed Development
 - 2.7.1. Means and Methods for Acceleration Phase Training
 - 2.7.1.1. Connection of Force to Acceleration
 - 2.7.1.2. Sled
 - 2.7.1.3. Slopes
 - 2.7.1.4. Jumpability
 - 2.7.1.4.1. Building the Vertical Jump
 - 2.7.1.4.2. Building the Horizontal Jump
 - 2.7.1.5. Training the ATP/PC System
 - 2.7.2. Means and Methods for Top Speed Training
 - 2.7.2.1. Plyometry
 - 2.7.2.2. Overspeed
 - 2.7.2.3. Interval-Intensive Methods
 - 2.7.3. Means and Methods for Speed Endurance Development
 - 2.7.3.1. Interval-Intensive Methods
 - 2.7.3.2. Repetition Method
- 2.8. Agility and Change of Direction
 - 2.8.1. Definition of Agility
 - 2.8.2. Definition of Change of Direction
 - 2.8.3. Determinants of Agility and COD
 - 2.8.4. Change of Direction Technique

- 2.8.4.1. Shuffle
- 2.8.4.2. Crossover
- 2.8.4.3. Agility and COD Training Drills
- 2.9. Assessment and Control of Speed Training
 - 2.9.1. Strength-Speed Profile
 - 2.9.2. Test With Photocells and Variants With Other Control Devices
 - 2.9.3. RSA
- 2.10. Programming Speed Training

Module 3. Endurance Training from Theory to Practice

- 3.1. General concepts
 - 3.1.1. General Definitions
 - 3.1.1.1. Education
 - 3.1.1.2. Trainability
 - 3.1.1.3. Sports Physical Preparation
 - 3.1.2. Objectives Endurance Training
 - 3.1.3. General Principles of Training
 - 3.1.3.1. Principles of Load
 - 3.1.3.2. Principles of Organization
 - 3.1.3.3. Principles of Specialization
- 3.2. Physiology of Aerobic Training
 - 3.2.1. Physiological Response to Aerobic Endurance Training
 - 3.2.1.2. Responses to Continuous Stress
 - 3.2.1.3. Responses to Intervallic Stress
 - 3.2.1.4. Responses to Intermittent Stress
 - 3.2.1.5. Responses to Stress in Small-Space Games
 - 3.2.2. Factors Related to Aerobic Endurance Performance
 - 3.2.2.1. Aerobic Power
 - 3.2.2.2. Anaerobic Threshold
 - 3.2.2.3. Maximum Aerobic Speed
 - 3.2.2.4. Economy of Effort
 - 3.2.2.5. Use of Substrates
 - 3.2.2.6. Characteristics of Muscle Fibers
- 3.2.3. Physiological Adaptations to Aerobic Endurance
 - 3.2.3.1. Adaptations to Continuous Stress
 - 3.2.3.2. Adaptations to Intervallic Stress
 - 3.2.3.3. Adaptations to Intermittent Stress
 - 3.2.3.4. Adaptations to Stress in Small-Space Games
- 3.3. Situational Sports and Their Relation to Aerobic Endurance
 - 3.3.1. Group I Situational Sport Demands; Soccer, Rugby and Hockey
 - 3.3.2. Group II Situational Sport Demands; Basketball, Handball, Futsal
 - 3.3.3. Group III Situational Sport Demands; Tennis and Volleyball
- 3.4. Monitoring and Assessment of Aerobic Endurance
 - 3.4.1. Direct Treadmill Versus Field Evaluation
 - 3.4.1.1. VO₂max Treadmill Versus Field
 - 3.4.1.2. VAM Treadmill Versus Field
 - 3.4.1.3. VAM versus VFA
 - 3.4.1.4. Time Limit (VAM)
 - 3.4.2. Continuous Indirect Tests
 - 3.4.2.1. Time Limit (VFA)
 - 3.4.2.2. 1,000m Test
 - 3.4.2.3. 5 Minute Test
 - 3.4.3. Incremental and Maximum Indirect Tests
 - 3.4.3.1. UMTT, UMTT-Brue, VAMEVAL and T-Bordeaux
 - 3.4.3.2. UNCa Test; Hexagon, Track, Hare
 - 3.4.4. Indirect Back-and-Forth and Intermittent Tests
 - 3.4.4.1. 20m Shuttle Run Test (Course Navette)
 - 3.4.4.2. YoYo Test
 - 3.4.4.3. Intermittent Tests; 30-15 IFT, Carminatti, 45-15. Test
 - 3.4.6. Specific Tests With Ball

- 3.4.6.1. Hoff Test
 - 3.4.7. Proposal Based on the VFA
 - 3.4.7.1. VFA Contact Points for Football, Rugby and Hockey
 - 3.4.7.2. VFA Contact Points for Basketball, Futsal and Handball
- 3.5. Planning Aerobic Exercise
 - 3.5.1. Exercise Model
 - 3.5.2. Training Frequency
 - 3.5.3. Duration of the Exercise
 - 3.5.4. Training Intensity
 - 3.5.5. Density
- 3.6. Methods to Develop Aerobic Endurance
 - 3.6.1. Continuous Training
 - 3.6.2. Interval Training
 - 3.6.3. Intermittent Training
 - 3.6.4. SSG Training (Small-Space Games)
 - 3.6.5. Mixed Training (Circuits)
- 3.7. Program Design
 - 3.7.1. Preseason Period
 - 3.7.2. Competitive Period
 - 3.7.3. Postseason Period
- 3.8. Special Aspects Related to Training
 - 3.8.1. Concurrent Training
 - 3.8.2. Strategies to Design Concurrent Training
 - 3.8.3. Adaptations Generated by Concurrent Training
 - 3.8.4. Differences Between Genders
 - 3.8.5. De-Training
- 3.9. Aerobic Training in Children and Youth
 - 3.9.1. General concepts
 - 3.9.1.1 Growth, Development and Maturation
 - 3.9.2. Evaluation of VO₂max and VAM
 - 3.9.2.1. Indirect Measurement

- 3.9.2.2. Indirect Field Measurement
 - 3.9.3. Physiological Adaptations in Children and Youth
 - 3.9.3.1. VO₂max and VAM Adaptations
 - 3.9.4. Design of Aerobic Training
 - 3.9.4.1. Intermittent Method
 - 3.9.4.2. Adherence and Motivation
 - 3.9.4.3. Games in Small Spaces



*A unique specialization experience,
key and decisive to boost your
professional development"*

05 Methodology

This 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.





“

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

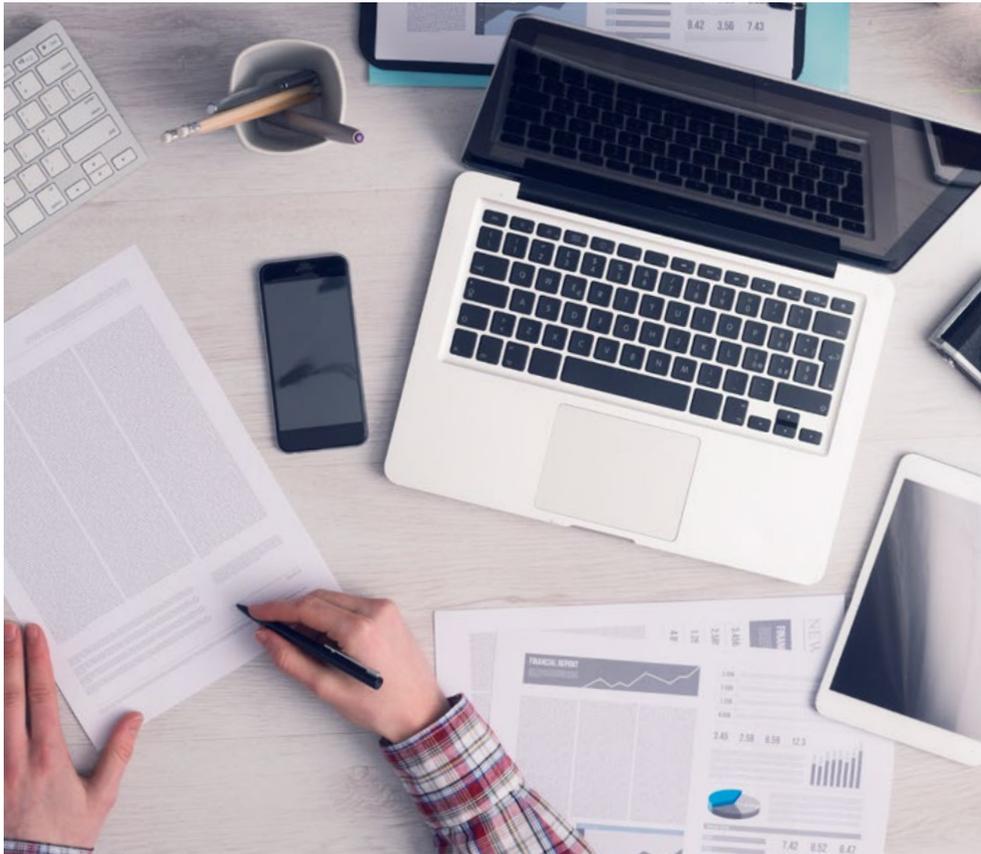
Our program offers a revolutionary method of skills and knowledge development. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

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At TECH, you will experience a way of learning 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 innova-

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 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 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 enabled 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 education, 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 adapted in 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.



Practicing Skills and Abilities

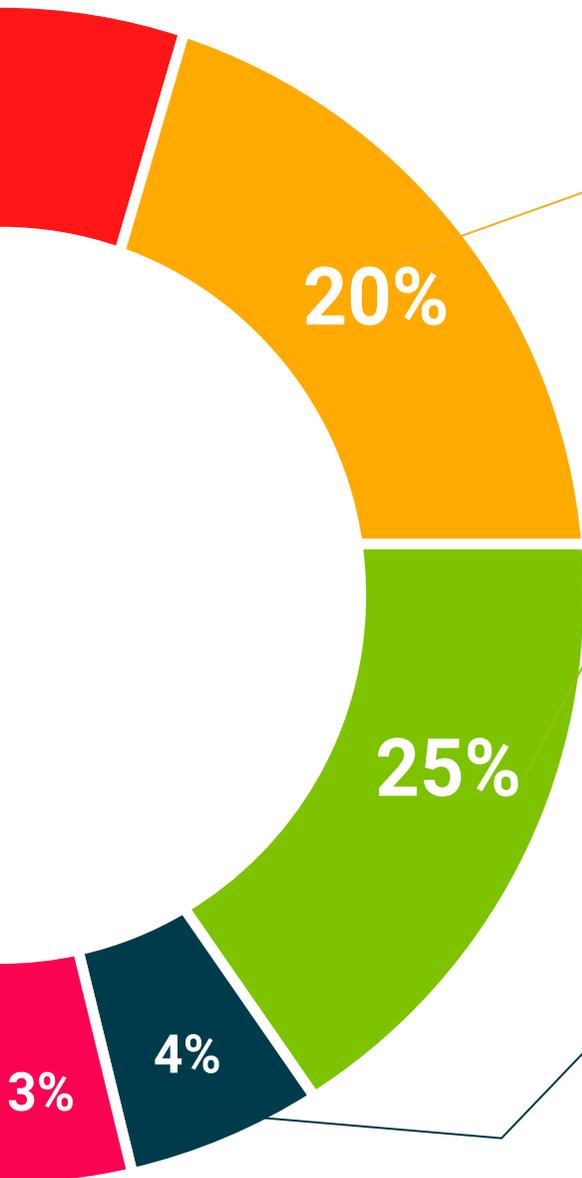
They will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



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 assess and re-assess 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

This Postgraduate Diploma in High Performance in Sports: Strength, Speed and Endurance Training guarantees, in addition to the most rigorous and up-to-date Training, access to a 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*

This **Postgraduate Diploma in High Performance in Sports: Strength, Speed and Endurance Training** contains the most complete and up-to-date scientific program on the market.

After you have passed the evaluations, you will receive your corresponding **Postgraduate Certificate title** issued by **TECH Technological University * with acknowledgement of receipt**.

The diploma issued by TECH Technological University will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professionals career evaluation committee.

Title: **Postgraduate Diploma in High Performance in Sports: Strength, Speed and Endurance Training**

Official N° of Hours: **450 hours**.

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.



Postgraduate Diploma

High Performance in

Sports:

Strength, Speed and

Endurance Training

- » Modality: Online
- » Duration: 6 months.
- » Certificate: TECH Technological University
- » Dedication: 16h/week

Postgraduate Diploma

High Performance in Sports: Strength, Speed and Endurance Training

Endorsed by the

