

# Hybrid Professional Master's Degree Fitness Instructor

Endorsed by the NBA





## Hybrid Professional Master's Degree

### Fitness Instructor

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

60 + 5 ECTS Credits

Website: [www.techtute.com/us/sports-science/hybrid-professional-master-degree/hybrid-professional-master-degree-fitness-instructor](http://www.techtute.com/us/sports-science/hybrid-professional-master-degree/hybrid-professional-master-degree-fitness-instructor)

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# 01

# Introduction

Being a Fitness Instructor has become one of the professions with the greatest future due to the current demand of people to lead a healthier lifestyle. This has caused more people to find themselves in search of a gym with highly qualified professionals. Under this premise, this program has been designed to qualify sports science professionals to work in this exciting field with the guarantee of having the highest level of knowledge and competencies in high performance training or for aesthetic purposes. In addition, students will put these skills into practice for 3 weeks in a sports center, in order to enhance their skills based on the needs of the professional market.



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*Acquire knowledge based on the most current scientific evidence with full applicability in the practical field following a program designed by experts”*

The world of *fitness* has evolved over the years. In society, health and image are two important factors in generating well-being. For this reason, more and more people are joining a gym to improve their body and overall fitness. This makes it essential to have professionals who are qualified to meet the current demand and apply the most up-to-date knowledge.

For this reason, the instructor is a highly sought-after professional in this sector, since they are in charge of providing the necessary advice to improve the physical condition and health of the people who come to an exercise center. With this in mind, this complete Hybrid Professional Master's Degree as a Fitness Instructor is born, which aims to provide the professional of Sports Sciences with the most up-to-date and innovative knowledge in terms of management and sports monitoring in gyms.

Throughout these 12 months of teaching, the student will master important aspects such as the administration of this type of sports institutions, the physiology of exercise or the management and monitoring of group classes. In addition, they will also delve into personalized training for people with obesity or in special conditions such as pregnancy. In this way, the student is offered a transversal and complete vision of the Fitness Instructor's work that will allow them to work successfully in the profession.

All this knowledge will be put into practice through a 3-week work period in a reputable sports center or gym. In this phase, thanks to the advice and monitoring of a private tutor, the student will assimilate up-to-date skills in this area to meet the needs of a growing sector.

This **Hybrid Professional Master's Degree in Fitness Instructor** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of 100 case studies presented by experts in Physical Activity and Sport
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises that enable the self-assessment process and enhance learning
- ♦ Special emphasis on innovative training methodologies
- ♦ Guidelines to improve group and individualized training sessions
- ♦ All of this will be complemented by 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
- ♦ In addition, the user will be able to do an internship in one of the best sport centers in the world



*Complement your theoretical studies with an internship in a prestigious sports center that meets the quality standards for your profession"*

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*Enjoy an intensive 3-week stay in a reputable center and get up to date on the latest clinical procedures to achieve professional growth”*

In this proposal for a Hybrid Professional Master's Degree, of a professionalizing nature and online format, the program is aimed at updating sports science professionals who work in gyms, and who require a high level of qualification. The contents are based on the latest scientific evidence, and oriented in a didactic way to integrate theoretical knowledge in sports practice, and the theoretical-practical elements will facilitate the updating of knowledge and will allow decision making in a work environment.

Thanks to its multimedia content developed with the latest educational technology, they will allow the professional to learn in a contextual and situated learning environment, i.e., a simulated environment that will provide immersive learning programmed to train in real situations. This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Acquire the tools, knowledge and skills that will allow you to stand out in a sector that increasingly requires more specialized monitors.*

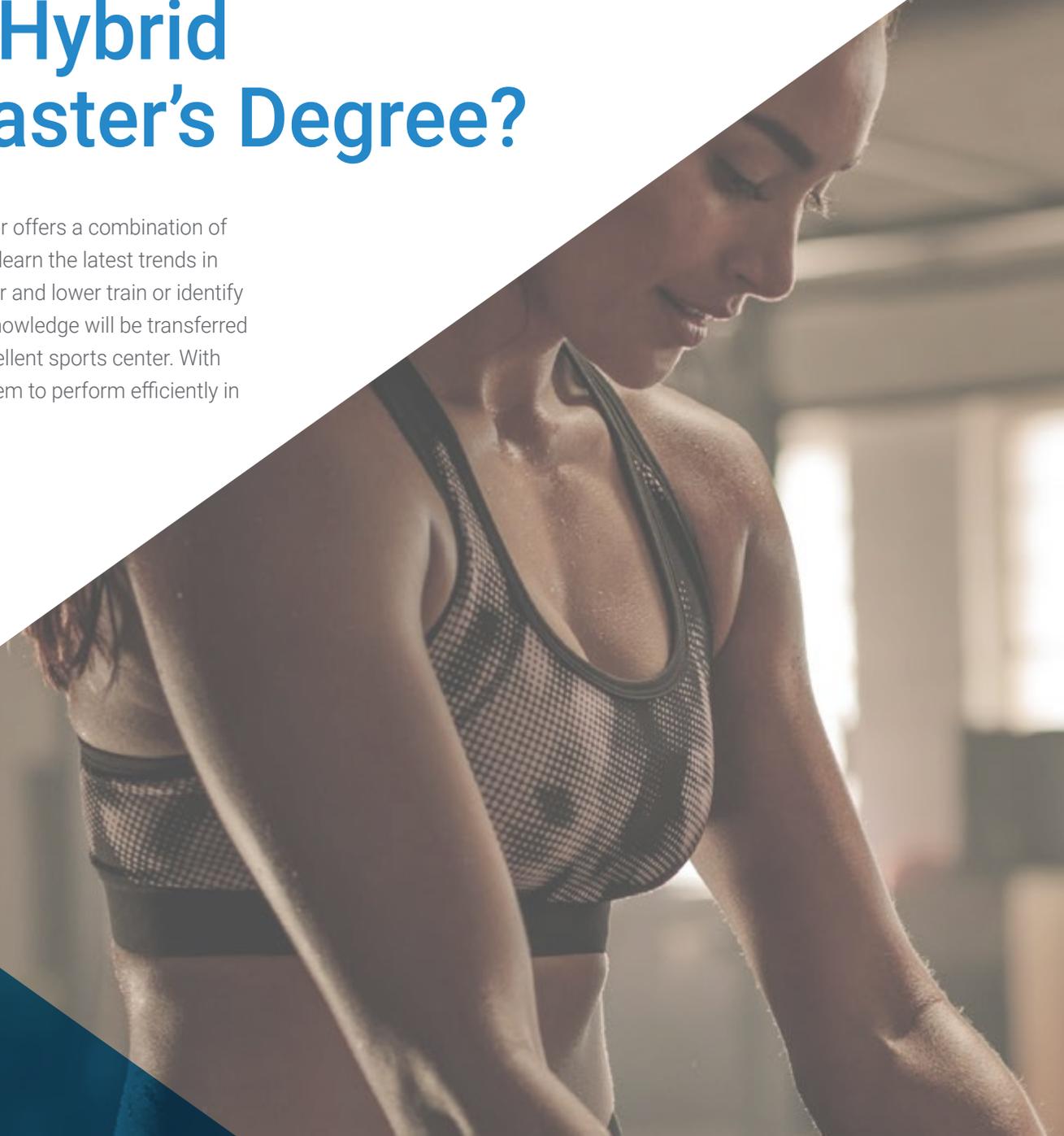
*Grow professionally by taking a Hybrid Professional Master's Degree that will lay the foundations for excellent professional work, competing with the best in the sector.*



02

# Why Study this Hybrid Professional Master's Degree?

The Hybrid Professional Master's Degree in Fitness Instructor offers a combination of theoretical and practical learning. Therefore, the student will learn the latest trends in strength training or hypertrophy training oriented to the upper and lower train or identify those exercises with less harmful character. Likewise, this knowledge will be transferred to the professional field during a 3-week internship in an excellent sports center. With this, the student will achieve an education that will enable them to perform efficiently in this environment.



Why Study this Hybrid Professional | 09  
Master's Degree?

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*After mastering the best theoretical contents in the field of training in gyms, TECH offers you the opportunity to put this knowledge into practice in a high-level sports environment"*

### 1. Updating from the Latest Technology Available

In recent years, the world of *fitness* has evolved significantly due to the emergence of revolutionary training methods aimed at gaining strength, the use of new equipment or the application of strategies to prevent injuries. For this reason, and with the aim of providing students with comprehensive knowledge in this field, TECH has created this program.

### 2. Gaining In-depth Knowledge from the Experience of Top Specialists

The didactic contents that the student will study throughout this academic program are expressly elaborated by experts who work actively in the world of sports. Because of this, all the knowledge provided to the student will be completely up-to-date and applicable in their professional life.

### 3. Entering First-Class Sports Environments

This program includes, in its final stage, an Internship Program that will allow the expert to put into practice all the theoretical knowledge acquired in a prestigious sports center. Therefore, they will be able to identify in first person the most up-to-date work mechanisms in this sector.





#### 4. Combining the Best Theory with State-of-the-Art Practice

Thanks to this program, the student will obtain a high level of theoretical knowledge in the world of gym training. However, this learning will be transferred to the professional environment, since they will develop their practical skills through a real experience of 3 weeks in a sports center.

#### 5. Expanding the Boundaries of Knowledge

TECH offers internship opportunities not only in centers of international scope. In this way, the specialist will be able to expand their boundaries and keep up to date with the best professionals, who practice in first class sports centers and in different continents. A unique opportunity that only TECH, the largest online university in the world, could offer.

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*You will have full practical immersion  
at the center of your choice”*

# 03 Objectives

The objective of the Hybrid Professional Master's Degree in Fitness Instructor is to provide professionals with up-to-date knowledge on different methods to evaluate people's sports performance. To this end, a high level syllabus has been established based on the latest developments in the sector and created with the utmost scientific rigor. With this modality, the professional will be able to master and apply with certainty the most current training methods to improve the quality of life in people with common pathologies. To this end, TECH establishes a series of general and specific objectives to fulfill future graduates' expectations.





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*This program will allow you to increase your knowledge in the field of physical training in gyms, as well as to put it into practice through a real experience of 120 hours in a sports center"*



## General Objective

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- The general objective of the Hybrid Professional Master's Degree in Fitness Instructor is to provide experts with up-to-date knowledge based on scientific evidence in the field of training for different types of athletes. Therefore, you will learn the latest methods to extract the maximum performance during physical activity or master the principles that determine the physiology of exercise. Likewise, through a 120-hour internship in a sports center, it aims to offer a real experience in which the student will put into practice the theoretical contents acquired





## Specific Objectives

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### Module 1. Exercise Physiology and Physical Activity

- ♦ Interpret key aspects of biochemistry and thermodynamics
- ♦ In-depth knowledge of key aspects of the neuromuscular system, motor control and its role in physical training
- ♦ Analyze muscle physiology, the process of muscle contraction and the molecular basis of muscle contraction
- ♦ Determine the general causes of fatigue and its impact on different types and modalities of exercise

### Module 2. Logistics and Administrative Role of the Indoor Instructor

- ♦ Assimilate the administrative tasks necessary to organize the different activities proposed in the Gym
- ♦ Select different types of management strategies according to a given work context

### Module 3. Mobility Training

- ♦ Master the neurophysiological principles that influence the development of mobility
- ♦ Unpack the basic concepts and objectives related to mobility training
- ♦ Design tasks and plans for the development of mobility manifestations
- ♦ Apply the different methods of performance optimization through recovery methods
- ♦ Address the effects produced by an injury at the neuromuscular level in the athlete

### Module 4. Group Classes

- ♦ Have an in-depth knowledge of different types of group classes and their applicability to the field of practice
- ♦ Select those group classes most appropriate to the needs and desires of heterogeneous clients
- ♦ Apply different types of strategies that provide security in the management of the external load that characterizes the modality of each type of group class proposed

### Module 5. Obesity and Physical Exercise

- ♦ Understand the physical limitations of the obese individual
- ♦ Be able to plan and program training in an individualized way for a person with obesity

### Module 6. Physical Exercise, Adolescents and Older Adults

- ♦ In-depth understanding of the biopsychosocial aspects of children, adolescents and older adults
- ♦ Know the particularities of each age group and their specific approach
- ♦ Plan and program training in an individualized manner for children, adolescents and older adults

### Module 7. Physical Exercise and Pregnancy

- ♦ Know in depth the morphofunctional changes of the pregnancy process
- ♦ In-depth understanding of the biopsychosocial aspects of pregnancy
- ♦ Individualized planning and programming of training for pregnant women

### Module 8. Sports Performance Assessment

- ♦ Select the most appropriate performance evaluation tests according to specific needs
- ♦ Correctly and safely administer the protocols of the different tests and the interpretation of the data collected
- ♦ Know and apply different types of technologies currently used in the field of exercise assessment, both in the field of health and fitness performance at any level of demand

### Module 9. Strength Training

- ♦ Know and correctly interpret all the theoretical aspects that define force and its components
- ♦ Master the most effective strength training methods
- ♦ 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 10. Indoor Targeted Personal Training

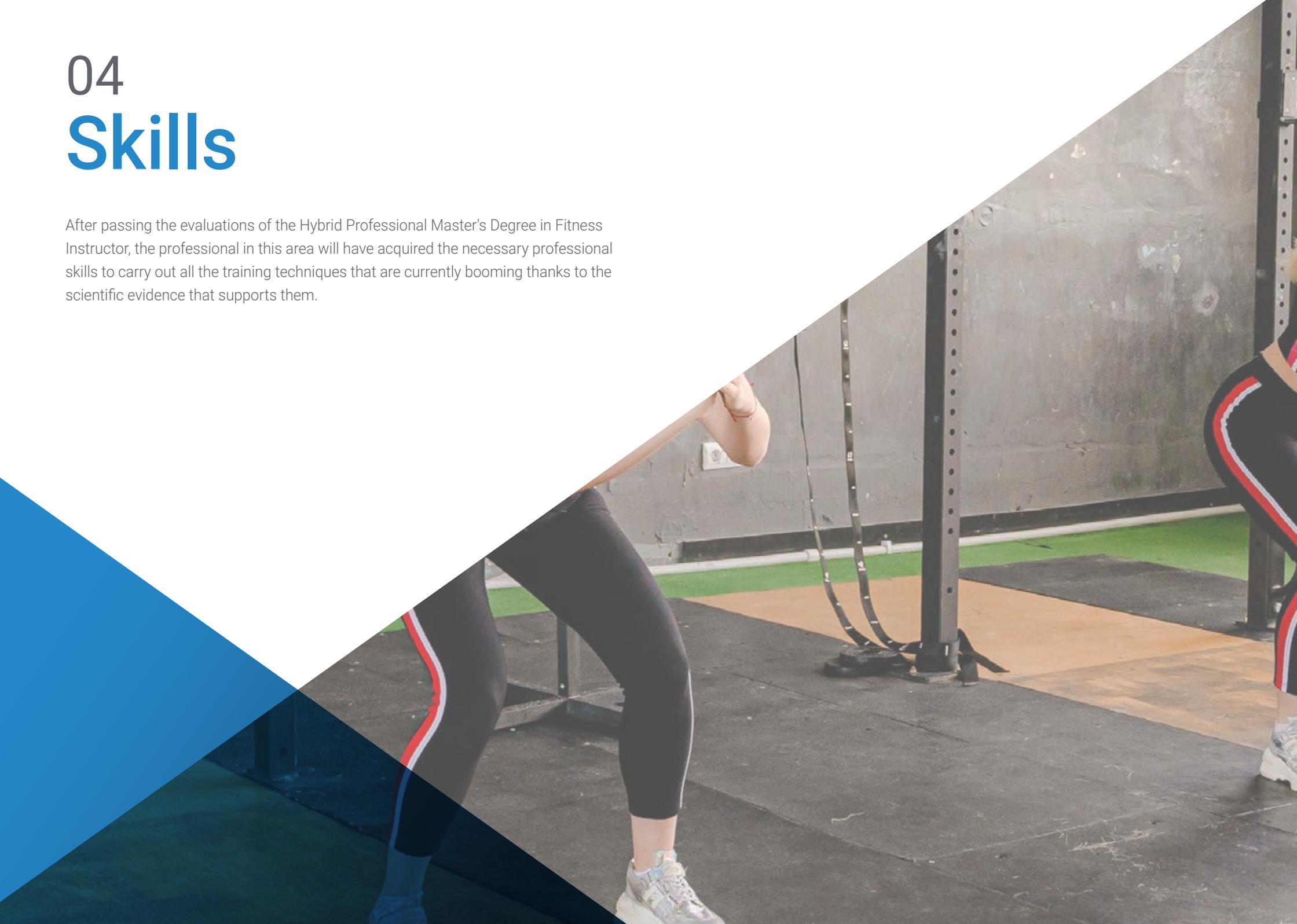
- ♦ In-depth understanding of the pathophysiology of metabolic syndrome
- ♦ Understand the intervention criteria to improve the health and quality of life of patients with this disease
- ♦ Be able to plan and program training in an individualized way for a person with metabolic syndrome

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*Develop your skills as a sports instructor treating real people, growing personally and professionally in your field”*

# 04 Skills

After passing the evaluations of the Hybrid Professional Master's Degree in Fitness Instructor, the professional in this area will have acquired the necessary professional skills to carry out all the training techniques that are currently booming thanks to the scientific evidence that supports them.





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*Exercising as a Fitness Instructor with specific competences becomes a key aspect to change people's perception and motivate their good health above all things"*



## General Skills

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- ♦ Acquire knowledge based on the most current scientific evidence with full applicability in the field of Fitness Instructors
- ♦ Master the most advanced methods of gym management
- ♦ Have a global vision of how gyms operate
- ♦ Employ leadership skills within a fitness center and learn how to properly manage people in this sector

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*Enroll now and advance in your field of work with a comprehensive program that will allow you to put into practice everything you have learned”*





## Specific Skills

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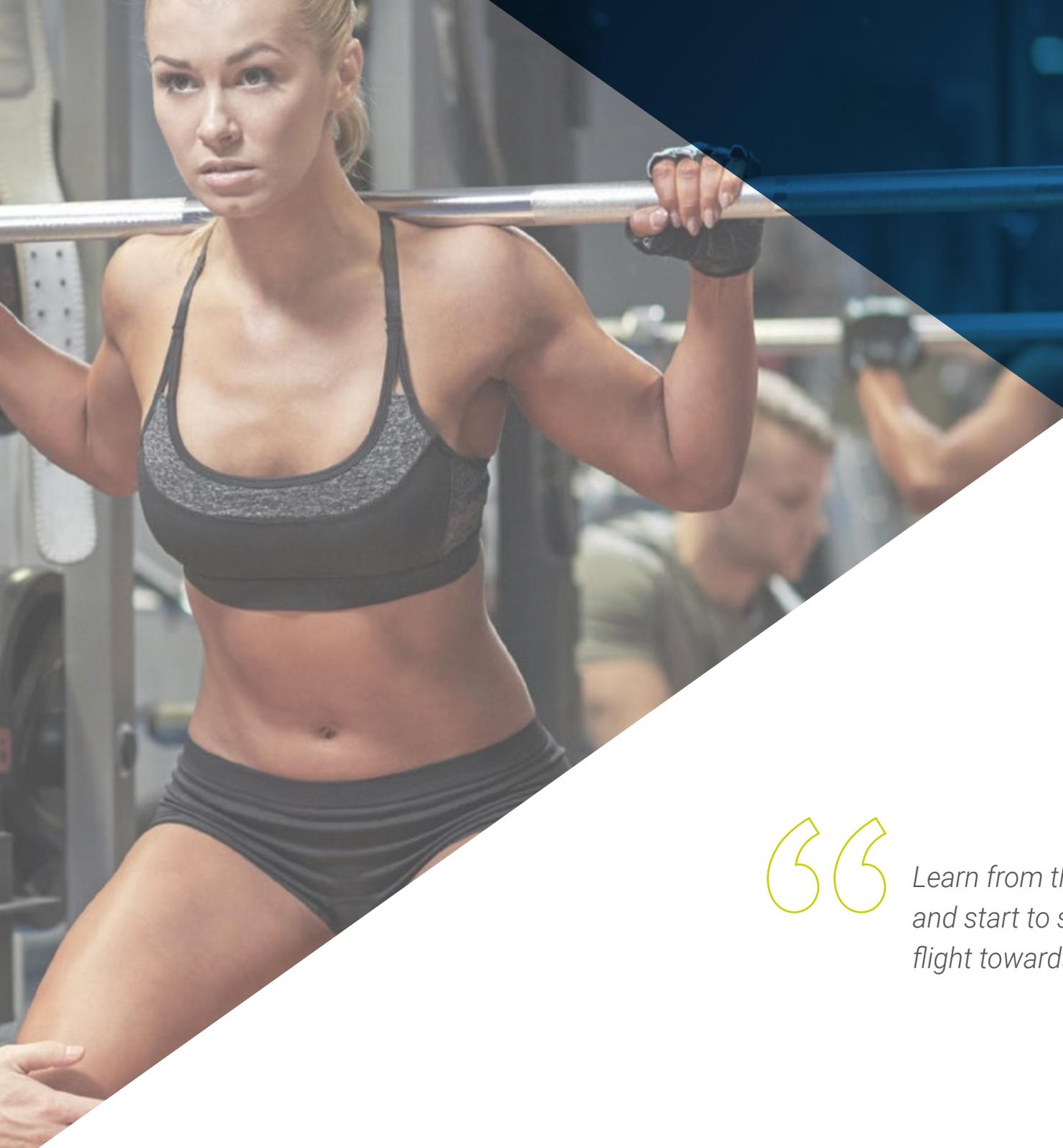
- ♦ Possess complete knowledge to be able to successfully enter the world of training and physical activity and health
- ♦ Know how to work with normal populations for aesthetic or quality of life purposes, as well as with populations with common pathologies
- ♦ Be able to approach training with different objectives with real knowledge
- ♦ Develop the student's understanding of how physiological systems involved in physical activity respond to a single exercise session, and how various training modes and environmental conditions can modify these systems and their response to stress
- ♦ Coordinate the administrative aspects of a gym so that it functions optimally
- ♦ Identify in depth the methodological and pedagogical profile behind the different group class proposals that can be found in most training centers and gyms
- ♦ Apply training planning and programming tailored to the needs of individuals with obesity in order to generate measurable changes in the person's health
- ♦ Master the different tests and physical tests that exist in order to know the state of physical fitness of the individual
- ♦ Understand, from the latest scientific evidence, the benefits of strength training
- ♦ Assimilate the latest scientific and technological advances for the control of loads during strength training
- ♦ Detect, in an extensive and detailed way, the characteristics that define people
- ♦ with obesity, alteration in glucose values, dyslipidemia and/or hypertension

05

# Course Management

One of the aspects that make this Professional Master's Degree unique compared to others in the sector is the teaching staff. Therefore, the professional who decides to take this program with TECH will have at his disposal an excellent teaching staff highly specialized in this field. For this reason, it has also been this team who has designed the contents of the program, ensuring the student a complete learning, based on the highest scientific rigor and the latest developments in the sector.





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*Learn from the best in the industry  
and start to see your career take  
flight towards excellence”*

## Management



### Dr. Rubina, Dardo

- ♦ Specialist in High Performance Sports
- ♦ CEO of the Test and Training project
- ♦ Physical Trainer at Moratalaz Sports School
- ♦ Teacher of Physical Education in Soccer and Anatomy at CENAFE Carlet Schools
- ♦ Coordinator of Field Hockey Physical Training at the Gimnasia y Esgrima Club in Buenos Aires
- ♦ Doctorate in High Performance Sports
- ♦ Postgraduate Certificate in Advanced Research Studies from the University of Castilla-La Mancha
- ♦ Master in High Performance Sports by the Autonomous University of Madrid
- ♦ Postgraduate in Physical Activity in Populations with Pathologies by the University of Barcelona
- ♦ Competitive Bodybuilding Technician by the Extremadura Federation of Bodybuilding and Fitness
- ♦ Expert in Sports Scouting and Quantification of Training Load with Specialization in Soccer and Sports Sciences by the University of Melilla
- ♦ Advanced Bodybuilding Expert by the International Fitness and Bodybuilding Federation (IFBB)
- ♦ Postgraduate Diploma in Advanced Nutrition by the International Fitness and Bodybuilding Federation (IFBB)
- ♦ Specialist in Physiological Assessment and Interpretation of Physical Aptitude
- ♦ Arizona State University's Certification in Weight Management and Fitness Technologies

## Professors

### Carbone, Leandro

- ♦ Teacher of Strength Training and Fitness Training
- ♦ CEO of Project LIFT, a training and coaching company
- ♦ Head of the Department of Sports Evaluations and Exercise Physiology, WellMets - Sport & Medicine Institute in Chile
- ♦ CEO Manager at Complex I
- ♦ University Lecturer
- ♦ External Consultant for Speed4lift, a leading company in the area of Sports Technology
- ♦ Bachelor's Degree in Physical Activity from Universidad del Salvador
- ♦ Specialist in Exercise Physiology from the National University of La Plata
- ♦ MSc. Strength and Conditioning at the University of Greenwich, U.K

### Mr. Jareño Díaz, Juan

- ♦ Specialist in Physical Preparation and Sport
- ♦ Coordinator of the Physical Education and Preparation Area at the Moratalaz Sports School
- ♦ University Lecturer
- ♦ Personal Trainer and Sports Coach at 9.8 Gravity Training Studio
- ♦ Graduate in Physical Activity and Sports Sciences from the University of Castilla-La Mancha
- ♦ Master's Degree in Physical Preparation in Soccer by the University of Castilla-La Mancha
- ♦ Postgraduate degree in Personal Training from the University of Castilla-La Mancha

### Ms. Riccio, Anabella

- ♦ Functional Training Specialist
- ♦ Functional Training Instructor in District B
- ♦ Functional Training and Crossfit teacher at Athlon Gym
- ♦ Bachelor's Degree in Physical Education from the National University of La Plata. Argentina
- ♦ Specialist in Exercise Programming and Assessment
- ♦ Course in Biochemistry for Exercise Programming Course

### Varela, Mauricio Carlos

- ♦ Specialist in Integral Physical Training
- ♦ Physical Education Teacher
- ♦ Personal Trainer for Older Adults
- ♦ Physical Trainer, Personal Trainer of Elite Cyclists in the Astronomy Cycling Circuit
- ♦ Degree in Physical Education
- ♦ Specialization in Exercise Programming and Evaluation. Postgraduate Course by the Faculty of Humanities and Educational Sciences of the National University of La Plata
- ♦ ISAK level 1 accredited Anthropometrist
- ♦ Member of: International Society for the Advancement of Kineanthropometry (ISAK)

**Mr. Renda, Juan Manuel**

- ♦ Physical Preparation Specialist
- ♦ Physical Education Teacher
- ♦ Bachelor's Degree in Physical Education from the Universidad Nacional de General San Martín
- ♦ Bachelor in Kinesiology and Physiatry from the HA Barceló University Institute
- ♦ Master's Degree in Physical Education, National University of Lomas de Zamora

**Dr. Mr. Delovo, Nahuel**

- ♦ Head Coach Specializing in Team Sports
- ♦ Physical Education Teacher
- ♦ Physical Trainer at the Peruvian Rugby Federation
- ♦ General Coordinator at Athlon Capacitaciones
- ♦ Strength and Conditioning World Rugby, Level 1
- ♦ Strength and Conditioning World Rugby, Level 2
- ♦ Professor of Health and Physical Education, Universidad Nacional de La Plata

**Mr. Masse, Juan Manuel**

- ♦ Physical Trainer for High Performance Athletes
- ♦ Director of the Athlon Science Study Group
- ♦ Physical trainer for several professional soccer teams in South America





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*Delve into the most relevant theory in this field, subsequently applying it in a real work environment"*

# 06

## Educational Plan

The contents of this Hybrid Professional Master's Degree in Fitness Instructor have been conceived, designed and planned following the demands that currently exist in the physical activity sector. TECH, aware of the relevance and timeliness of education in this field, has designed this syllabus to be the most complete and updated in the market. In addition, these resources have been developed by experts in the world of sports, who provide the syllabus with a multimedia format of high didactic quality that provides the student with an immersive, complete and contextual learning experience.





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*Complement your education as a Fitness Instructor with a program adapted to the current demands of this profession”*

## Module 1. Exercise Physiology and Physical Activity

- 1.1. Thermodynamics and Bioenergetics
  - 1.1.1. Organic Chemistry
  - 1.1.2. Functional Groups
  - 1.1.3. Enzymes
  - 1.1.4. Coenzymes
  - 1.1.5. Acids and Bases
  - 1.1.6. PH
- 1.2. Energy Systems
  - 1.2.1. Energy Systems
    - 1.2.1.1. Capacity and Power
    - 1.2.1.2. Cytoplasmic Vs. Mitochondrial
  - 1.2.2. Phosphagen Metabolism
    - 1.2.2.1. ATP - PC
    - 1.2.2.2. Pentose Pathway
    - 1.2.2.3. Nucleotide Metabolism
  - 1.2.3. Carbohydrate Metabolism
    - 1.2.3.1. Glycolysis
    - 1.2.3.2. Glycogenogenesis
    - 1.2.3.3. Glycogenolysis
    - 1.2.3.4. Gluconeogenesis
  - 1.2.4. Lipid Metabolism
    - 1.2.4.1. Bioactive Lipids
    - 1.2.4.2. Lipolysis
    - 1.2.4.3. Beta-oxidation
    - 1.2.4.4. De Novo Lipogenesis
  - 1.2.5. Oxidative Phosphorylation
    - 1.2.5.1. Oxidative Decarboxylation of Pyruvate
    - 1.2.5.2. Krebs Cycle
    - 1.2.5.3. Electron Transport Chain
    - 1.2.5.4. ROS
    - 1.2.5.5. Mitochondrial Cross-talk
- 1.3. Signaling Pathways
  - 1.3.1. Second Messengers
  - 1.3.2. Steroid Hormones
  - 1.3.3. AMPK
  - 1.3.4. NAD+
  - 1.3.5. PGC1
- 1.4. Skeletal Muscle
  - 1.4.1. Structure and Function
  - 1.4.2. Fibers
  - 1.4.3. Innervation
  - 1.4.4. Muscle Cytoarchitecture
  - 1.4.5. Protein Synthesis and Breakdown
  - 1.4.6. mTOR
- 1.5. Neuromuscular Adaptations
  - 1.5.1. Motor Unit Recruitment
  - 1.5.2. Synchronization
  - 1.5.3. Neural Drive
  - 1.5.4. Golgi Tendon Organ and Neuromuscular Spindle
- 1.6. Structural Adaptations
  - 1.6.1. Hypertrophy
  - 1.6.2. Mecano Signal Translation
  - 1.6.3. Metabolic Stress
  - 1.6.4. Muscle Damage and Inflammation
  - 1.6.5. Changes in Muscular Architecture
- 1.7. Fatigue
  - 1.7.1. Central Fatigue
  - 1.7.2. Peripheral Fatigue
  - 1.7.3. HRV
  - 1.7.4. Bioenergetic Model
  - 1.7.5. Cardiovascular Model
  - 1.7.6. Thermoregulator Model
  - 1.7.7. Psychological Model
  - 1.7.8. Governor Center Model

- 1.8. Maximum Oxygen Consumption
  - 1.8.1. Maximum Oxygen Consumption
  - 1.8.2. Assessment
  - 1.8.3. VO<sub>2</sub> Kinetics
  - 1.8.4. VAM
  - 1.8.5. Running Economics
- 1.9. Thresholds
  - 1.9.1. Lactate and Ventilatory Threshold
  - 1.9.2. MLSS
  - 1.9.3. Critical Power
  - 1.9.4. HIIT and LIT
  - 1.9.5. Anaerobic Speed Reserve
- 1.10. Extreme Physiological Conditions
  - 1.10.1. Height
  - 1.10.2. Temperature
  - 1.10.3. Diving
- 2.5. Social Networks and Outreach
  - 2.5.1. Management of IG and Facebook to advertise gym activities
  - 2.5.2. Simple Design of Publications About Gym Activities and Events on Social Networks
- 2.6. Professional Meetings
  - 2.6.1. Strategies Needed to Convene Professionals in Each Sector in Person
  - 2.6.2. Virtual Strategies for Information Management Among Professionals in each Sector
- 2.7. Cleaning and Maintenance
  - 2.7.1. Development of a Schedule for General Cleaning and Sanitization of Work Tools
  - 2.7.2. Implementation of a Control and Maintenance System for the Operation of the Gym Facilities
- 2.8. Health and Safety Supplies
  - 2.8.1. Basic Knowledge of Internal Security Instruments
  - 2.8.2. Basic Knowledge of General Hygiene Measures
- 2.9. Relationship between Activity Proposal and Customer Profile
  - 2.9.1. Different Potential Customer Profiles
  - 2.9.2. Activities Linked to Each Profile
- 2.10. Essential Elements and/or Materials
  - 2.10.1. Detail of Basic Elements that Will Be Necessary for the Correct Development of the Different Activities
  - 2.10.2. Functions and Uses of Each Most Commonly Used Item

## Module 2. Logistics and Administrative Role of the Indoor Instructor

- 2.1. Income and Expense Control
  - 2.1.1. Spreadsheet Management
  - 2.1.2. Automated Income and Expense control Systems
- 2.2. Proposed Activities
  - 2.2.1. Variety of Proposals and Disciplines of a Gym
  - 2.2.2. Rooms Inside a Gym
    - 2.2.2.1. Weight Room
    - 2.2.2.2. Group Activities Room
    - 2.2.2.3. Indoor Cycling Room
    - 2.2.2.4. Pilates Room
    - 2.2.2.5. Rehabilitation or Therapy Room
- 2.3. Credits and Accounting Logistics
  - 2.3.1. Organization of Activity Costs
  - 2.3.2. Proposed Plans Linking Different Activities
- 2.4. Input and Data Sheets
  - 2.4.1. Physical Control of Customer Entry
  - 2.4.2. Digitized Control of Customer Entry

## Module 3. Mobility Training

- 3.1. Neuromuscular System
  - 3.1.1. Neurophysiological Principles: Inhibition and Excitability
    - 3.1.1.1. Adaptations of the Nervous System
    - 3.1.1.2. Strategies to Modify Corticospinal Excitability
    - 3.1.1.3. Keys to Neuromuscular Activation
  - 3.1.2. Somatosensory Information Systems
    - 3.1.2.1. Information Subsystems
    - 3.1.2.2. Types of Reflexes
      - 3.1.2.2.1. Monosynaptic Reflexes
      - 3.1.2.2.2. Polysynaptic Reflexes
      - 3.1.2.2.3. Muscle-Tendinous-Articular Reflexes
    - 3.1.2.3. Responses to Dynamic and Static Stretches

- 3.2. Motor Control and Movement
  - 3.2.1. Stabilizing and Mobilising Systems
    - 3.2.1.1. Local System: Stabilizer System
    - 3.2.1.2. Global System: Mobilizing System
    - 3.2.1.3. Respiratory Pattern
  - 3.2.2. Movement Pattern
    - 3.2.2.1. Co-Activation
    - 3.2.2.2. Joint by Joint Theory
    - 3.2.2.3. Primary Motion Complexes
- 3.3. Understanding Mobility
  - 3.3.1. Key Concepts and Beliefs in Mobility
    - 3.3.1.1. Manifestations of Mobility in Sport
    - 3.3.1.2. Neurophysiological and Biomechanical Factors Influencing Mobility Development
    - 3.3.1.3. Impact of Mobility on Strength Development
  - 3.3.2. Objectives of Training Mobility in Sport
    - 3.3.2.1. Mobility in the Training Session
    - 3.3.2.2. Benefits of Mobility Training
  - 3.3.3. Mobility and Stability by Structures
    - 3.3.3.1. Foot-Ankle Complex
    - 3.3.3.2. Knee-Hip Complex
    - 3.3.3.3. Spine-Shoulder Complex
- 3.4. Training Mobility
  - 3.4.1. Fundamental Block:
    - 3.4.1.1. Strategies and Tools to Optimize Mobility
    - 3.4.1.2. Specific Pre-Exercise Scheme
    - 3.4.1.3. Specific Post-Exercise Scheme
  - 3.4.2. Mobility and Stability in Basic Movements
    - 3.4.2.1. Squat & Dead Lift
    - 3.4.2.2. Acceleration & Multidirection
- 3.5. Methods of Recovery
  - 3.5.1. Proposal for Effectiveness Based on Scientific Evidence
- 3.6. Methods for Training Mobility
  - 3.6.1. Tissue-Centered Methods: Passive Tension and Active Tension Stretching
  - 3.6.2. Methods Focused on Arthro-Coinematics: Isolated Stretching and Integrated Stretching
  - 3.6.3. Eccentric Training
- 3.7. Mobility Training Programming
  - 3.7.1. Effects of Stretching in the Short and Long Term
  - 3.7.2. Optimal Timing for Applying Stretching
- 3.8. Athlete Assessment and Analysis
  - 3.8.1. Functional and Neuromuscular Assessment
    - 3.8.1.1. Evaluation
    - 3.8.1.2. Evaluation Process
      - 3.8.1.2.1. Analyze the Movement Pattern
      - 3.8.1.2.2. Identify the Test
      - 3.8.1.2.3. Detect the Weak Links
  - 3.8.2. Athlete Assessment Methodology
    - 3.8.2.1. Types of Tests
      - 3.8.2.1.1. Analytical Assessment Test
      - 3.8.2.1.2. General Assessment Test
      - 3.8.2.1.3. Specific-Dynamic Assessment Test
    - 3.8.2.2. Assessment by Structures
      - 3.8.2.2.1. Foot-Ankle Complex
      - 3.8.2.2.2. Knee-Hip Complex
      - 3.8.2.2.3. Spine-Shoulder Complex
- 3.9. Mobility in Injured Athletes
  - 3.9.1. Pathophysiology of Injury: Effects on Mobility
    - 3.9.1.1. Muscle Structure
    - 3.9.1.2. Tendon Structure
    - 3.9.1.3. Ligament Structure
  - 3.9.2. Mobility and Prevention of Injuries: Practical Case
    - 3.9.2.1. Ruptured Ischialis in the Runner

## Module 4. Group Classes

- 4.1. Principles of Training
  - 4.1.1. Functional Unit
  - 4.1.2. Multilaterality
  - 4.1.3. Specificity
  - 4.1.4. Overload
  - 4.1.5. Continuity
  - 4.1.6. Progression
  - 4.1.7. Recovery
  - 4.1.8. Individuality
- 4.2. Controlling the Load
  - 4.2.1. Internal Load
  - 4.2.2. External Load
- 4.3. Stretching
  - 4.3.1. Stretching
  - 4.3.2. Objectives of Stretching
  - 4.3.3. Pedagogical Organization of the Stretching Class
- 4.4. GAL (Glutes, Abdominals and Legs)
  - 4.4.1. Objectives of a GAL Class
  - 4.4.2. Pedagogical Organization of the GAL Class
  - 4.4.3. External Load in the GAL Class
- 4.5. Floor Pilates
  - 4.5.1. Features of the Pilates Mat
  - 4.5.2. Pilates Mat Exercises and Movement Suggestions
  - 4.5.3. Training Load in a Pilates Mat Class
- 4.6. Rhythms
  - 4.6.1. Types of classes
  - 4.6.2. Features of Rhythm Classes
  - 4.6.3. Pedagogical Proposals for the Development of a Rhythm Class
- 4.7. Non-Conventional Classes
  - 4.7.1. Characteristics of Non-Conventional Training
  - 4.7.2. Exercise Proposals
  - 4.7.3. Pedagogical Organization of a Non-Conventional Training Class

- 4.8. Functional Training
  - 4.8.1. Functional Training
  - 4.8.2. Pedagogical Organization of the Functional Training Class
  - 4.8.3. Use of Internal Load
- 4.9. Aerobic
  - 4.9.1. Type of Aerobic Fitness Classes
  - 4.9.2. Pedagogical Structure of the Class
- 4.10. Indoor Cycling
  - 4.10.1. Birth of the Specialty in Gyms
  - 4.10.2. Indoor Cycling in Health
  - 4.10.3. Structure of the Indoor Cycling Class
- 4.11. Classes for Older Adults
  - 4.11.1. Profile of the Older Adults Group
  - 4.11.2. Benefits of Physical Activity in Older Adults
  - 4.11.3. Structure of a Group Class with Older Adults
- 4.12. Classes for Older Adults
  - 4.12.1. History of Yoga
  - 4.12.2. Yoga and Health

## Module 5. Obesity and Physical Exercise

- 5.1. Obesity
  - 5.1.1. Evolution of obesity: Associated cultural and social aspects
  - 5.1.2. Obesity and Co-Morbidities: The Role of Interdisciplinarity
  - 5.1.3. Childhood Obesity and its Impact on Future Adults
- 5.2. Pathophysiological Bases
  - 5.2.1. Obesity and Health Risks
  - 5.2.2. Pathophysiological Aspects of Obesity
  - 5.2.3. Obesity and Associated Pathologies
- 5.3. Assessment and Diagnosis
  - 5.3.1. Body Composition: 2-Component and 5-Component Model
  - 5.3.2. Assessment: Main Morphological Assessments
  - 5.3.3. Interpretation of Anthropometric Data
  - 5.3.4. Prescription of Physical Exercise for the Prevention and Improvement of Obesity

- 5.4. Protocols and Treatments
  - 5.4.1. First Therapeutic Guideline: Lifestyle Modification
  - 5.4.2. Nutrition: Role in Obesity
  - 5.4.3. Exercise: Role in Obesity
  - 5.4.4. Medical Treatment
- 5.5. Training Planning in Patients with Obesity
  - 5.5.1. Customer Level Specification
  - 5.5.2. Objectives
  - 5.5.3. Assessment Processes
  - 5.5.4. Operability with Respect to Spatial and Material Resources
- 5.6. Strength Training Programming in Obese Patients
  - 5.6.1. Objectives of Strength Training in Obese People
  - 5.6.2. Volume, Intensity and Recovery of Strength Training in Obese Individuals
  - 5.6.3. Selection of Exercises and Methods of Strength Training in Obese People
  - 5.6.4. Design of Strength Training Programs in Obese People
- 5.7. Programming of Resistance Training in the Obese Patient
  - 5.7.1. Objectives of Resistance Training in Obese People
  - 5.7.2. Volume and Intensity and Recovery from Resistance Training in Obese People
  - 5.7.3. Selection of Exercises and Methods of Resistance Training in Obese People
  - 5.7.4. Design of Resistance Training Programs for Obese People
- 5.8. Joint Health and Complementary Training in Obese Patients
  - 5.8.1. Complementary Training in Obesity
  - 5.8.2. ROM/Flexibility Training in Obese People
  - 5.8.3. Improved Trunk Control and Stability in Obese People
  - 5.8.4. Other Training Considerations for the Obese Population
- 5.9. Psycho-social Aspects of Obesity
  - 5.9.1. Importance of Interdisciplinary Treatment in Obesity
  - 5.9.2. Eating Disorders
  - 5.9.3. Childhood Obesity
  - 5.9.4. Adult Obesity

- 5.10. Nutrition and Other Factors Related to Obesity
  - 5.10.1. "Omics" Sciences and Obesity
  - 5.10.2. Microbiota and its Influence on Obesity
  - 5.10.3. Protocols for Obesity Nutritional Intervention: Evidence
  - 5.10.4. Nutritional Recommendations for the Practice of Physical Exercise

## Module 6. Physical Exercise in Children and Adolescents and Older Adults

- 6.1. Physical exercise in children and adolescents
  - 6.1.1. Growth, Maturation and Development
  - 6.1.2. Development and Individuality: Chronological Age vs. Biological Age
  - 6.1.3. Sensitive Phases
  - 6.1.4. Long-term Development (*Long-term Athlete Development*)
- 6.2. Assessment of Physical Fitness in Children and Adolescents
  - 6.2.1. Main Evaluation Batteries
  - 6.2.2. Assessment of Coordinative Capacities
  - 6.2.3. Assessment of Conditional Capacities
  - 6.2.4. Morphological Assessment s
- 6.3. Physical Exercise Programming for Children and Adolescents
  - 6.3.1. Muscle Strength Training
  - 6.3.2. Aerobic Fitness Training
  - 6.3.3. Speed Training
  - 6.3.4. Flexibility Training
- 6.4. Neurosciences and Child and Adolescent Development
  - 6.4.1. Neurolearning in Childhood
  - 6.4.2. Motor Skills. Basis of Intelligence
  - 6.4.3. Attention and Emotion. Early Learning
  - 6.4.4. Neurobiology and Epigenetic Theory in Learning
- 6.5. Approach to Physical Exercise in the Older Adult
  - 6.5.1. Aging Process
  - 6.5.2. Morphofunctional Changes in the Older Adult
  - 6.5.3. Objectives of Physical Exercise in the Elderly
  - 6.5.4. Benefits of Physical Exercise in the Elderly

- 6.6. Comprehensive Gerontological Assessment
  - 6.6.1. Coordination Skills Test
  - 6.6.2. Katz Index of Independence in Activities of Daily Living
  - 6.6.3. Test of Conditioning Capacities
  - 6.6.4. Fragility and Vulnerability in Older Adults
- 6.7. Instability Syndrome
  - 6.7.1. Epidemiology of Elderly Woman Obesity
  - 6.7.2. Detection of Patients at Risk without a Previous Fall
  - 6.7.3. Risk Factors for Falls in the Elderly
  - 6.7.4. Post Fall Syndrome
- 6.8. Nutrition in Children and Adolescents and Older Adults
  - 6.8.1. Nutritional Requirements for each Stage of Life
  - 6.8.2. Increased Prevalence of Childhood Obesity and Type 2 Diabetes in Children
  - 6.8.3. Association of Degenerative Diseases with Saturated Fat Consumption
  - 6.8.4. Nutritional Recommendations for the Practice of Physical Exercise
- 6.9. Neurosciences and Older Adults
  - 6.9.1. Neurogenesis and Learning
  - 6.9.2. Cognitive Reserve in Older Adults
  - 6.9.3. We Can Always Learn
  - 6.9.4. Aging is not Synonymous with Disease
  - 6.9.5. Alzheimer's and Parkinson's Disease, the Value of Physical Activity
- 6.10. Physical Exercise Programming for Children and Older Adults
  - 6.10.1. Muscle Strength and Power Training
  - 6.10.2. Aerobic Fitness Training
  - 6.10.3. Cognitive Training
  - 6.10.4. Training of Coordinative Capacities
  - 6.10.5. Conclusions and Closing of Module 10

## Module 7. Physical Exercise and Pregnancy

- 7.1. Morphofunctional Changes in the Female Body during Pregnancy
  - 7.1.1. Body Mass Modification
  - 7.1.2. Modification of the Center of Gravity and Relevant Postural Adaptations
  - 7.1.3. Cardiorespiratory Adaptations
  - 7.1.4. Hematological Adaptations
  - 7.1.5. Adaptations of the Locomotor System
  - 7.1.6. Gastrointestinal and Renal Modifications
- 7.2. Pathophysiologicals Associated with Pregnancy
  - 7.2.1. Gestational Diabetes Mellitus
  - 7.2.2. Supine Hypotensive Syndrome
  - 7.2.3. Anaemia
  - 7.2.4. Lumbalgias
  - 7.2.5. Diastasis Recti
  - 7.2.6. Varicose Veins.
  - 7.2.7. Pelvic Floor Dysfunction
  - 7.2.8. Nerve Compression Syndrome
- 7.3. Kinefilaxia and Benefits of Physical Exercise in Pregnant Women
  - 7.3.1. Care to be Taken During Activities of Daily Living
  - 7.3.2. Preventive Physical Work
  - 7.3.3. Biological and Psycho-social Benefits of Physical Exercise
- 7.4. Risks and Contraindications in Physical Exercise in Pregnant Women
  - 7.4.1. Absolute Contraindications to Physical Exercise
  - 7.4.2. Relative Contraindications to Physical Exercise
  - 7.4.3. Precautions to be Taken into Account during Pregnancy
- 7.5. Nutrition in Pregnant Women
  - 7.5.1. Body Mass Weight Gain with Pregnancy
  - 7.5.2. Energy Requirements Throughout Pregnancy
  - 7.5.3. Nutritional Recommendations for the Practice of Physical Exercise
- 7.6. Training Planning for Pregnant Women
  - 7.6.1. First Quarter Planning
  - 7.6.2. Second Quarter Planning
  - 7.6.3. Third Quarter Planning

- 7.7. Musculoskeletal Training Programs
  - 7.7.1. Motor Control
  - 7.7.2. Stretching and Muscle Relaxation
  - 7.7.3. Muscle Fitness Work
- 7.8. Programming Speed Training
  - 7.8.1. Modality of Low-impact Physical Work
  - 7.8.2. Weekly Workload
- 7.9. Postural and Preparatory Labor for Childbirth
  - 7.9.1. Pelvic Floor Exercises
  - 7.9.2. Postural Exercises
- 7.10. Return to Physical Activity after Delivery
  - 7.10.1. Medical Discharge and Recovery Period
  - 7.10.2. Care for the Beginning of Physical Activity
  - 7.10.3. Conclusions and Closing of Module 9

## Module 8. Sports Performance Assessment

- 8.1. Assessment
  - 8.1.1. Test, Assessment, Measurement
  - 8.1.2. Validity, Reliability
  - 8.1.3. Purposes of the Evaluation
- 8.2. Types of Tests
  - 8.2.1. Laboratory Test
    - 8.2.1.1. Strengths and Limitations of Laboratory Tests
  - 8.2.2. Field Tests
    - 8.2.2.1. Strengths and Limitations of Field Tests
  - 8.2.3. Direct Tests
    - 8.2.3.1. Applications and Transfer to Training
  - 8.2.4. Indirect Tests
    - 8.2.4.1. Practical Considerations and Transfer to Training
- 8.3. Assessment of Body Composition
  - 8.3.1. Bioimpedance
    - 8.3.1.1. Considerations in its Application to Field
    - 8.3.1.2. Limitations on the Validity of Its Data

- 8.3.2. Anthropometry
  - 8.3.2.1. Tools for its Implementation
  - 8.3.2.2. Models of Analysis for Body Composition
- 8.3.3. Body Mass Index (IMC)
  - 8.3.3.1. Restrictions on the Data Obtained for the Interpretation of Body Composition
- 8.4. Assessing Aerobic Fitness
  - 8.4.1. Vo2max Test on the Treadmill
    - 8.4.1.1. Astrand Test
    - 8.4.1.2. Balke Test
    - 8.4.1.3. ACSM Test
    - 8.4.1.4. Bruce Test
    - 8.4.1.5. Foster Test
    - 8.4.1.6. Pollack Test
  - 8.4.2. Cycloergometer VO2max Test
    - 8.4.2.1. Astrand.Ryhming
    - 8.4.2.2. Fox Test
  - 8.4.3. Cycloergometer Power Test
    - 8.4.3.1. Wingate Test
  - 8.4.4. Vo2max Test in he Field
    - 8.4.4.1. Leger Test
    - 8.4.4.2. Montreal University Test
    - 8.4.4.3. 1-MR Test
    - 8.4.4.4. 12-Minute Test
    - 8.4.4.5. 2.4-Kilometer Test
  - 8.4.5. Field Test to Establish Training Areas
    - 8.4.5.1. 30-15 Test IFT
  - 8.4.6. UNca Test
  - 8.4.7. Yo Yo Test
    - 8.4.7.1. Yo-Yo Endurance YYET Level 1 and 2
    - 8.4.7.2. Yo-Yo Intermittent Endurance YYEIT Level 1 and 2
    - 8.4.7.3. Yo-Yo Intermittent Recovery YYERT Level 1 and 2

- 8.5. Neuromuscular Fitness Evaluation
  - 8.5.1. Submaximal Repetition Test
    - 8.5.1.1. Practical Applications for its Assessment
    - 8.5.1.2. Validated Estimation Formulas for the Different Training Exercises
  - 8.5.2. 1-MR Limitations
    - 8.5.2.1. Protocol for its Performance
    - 8.5.2.2. 1MR Valuation Limitations
  - 8.5.3. Horizontal Jump Test
    - 8.5.3.1. Assessment Protocols
  - 8.5.4. Speed Test (5m,10m,15m, Etc.)
    - 8.5.4.1. Considerations on the Data Obtained in Time/Distance Assessments
  - 8.5.5. Maximum/Submaximum Incremental Progressive Tests
    - 8.5.5.1. Validated Protocols
    - 8.5.5.2. Practical Applications
  - 8.5.6. Vertical Jump Test
    - 8.5.6.1. SJ Jump
    - 8.5.6.2. CMJ Jump
    - 8.5.6.3. ABK Jump
    - 8.5.6.4. DJ Test
    - 8.5.6.5. Continuous Jump Test
  - 8.5.7. Strength/Speed Vertical/Horizontal Profiles
    - 8.5.7.1. Morin and Samozino Assessment Protocols
    - 8.5.7.2. Practical Applications from a Strength/Speed Profile
  - 8.5.8. Isometric Tests With Load Cell
    - 8.5.8.1. Voluntary Isometric Maximal Strength Test (IMS)
    - 8.5.8.2. Bilateral Deficit Isometry Test (%BLD)
    - 8.5.8.3. Lateral Deficit (%LD)
    - 8.5.8.4. Hamstring/Quadriceps Ratio Test
- 8.6. Assessment and Monitoring Tools
  - 8.6.1. Heart Rate Monitors
    - 8.6.1.1. Device Characteristics
    - 8.6.1.2. Training Areas by Heart Rate
  - 8.6.2. Lactate Analyzers
    - 8.6.2.1. Device Types, Performance and Characteristics
    - 8.6.2.2. Training Zones According to the Lactate Threshold Limit (LT)
  - 8.6.3. Gas Analyzers
    - 8.6.3.1. Laboratory vs Portable Devices
  - 8.6.4. GPS
    - 8.6.4.1. GPS Types, Characteristics, Strengths and Limitations
    - 8.6.4.2. Metrics Established to Interpret the External Load
  - 8.6.5. Accelerometers
    - 8.6.5.1. Types of Accelerometers and Characteristics
    - 8.6.5.2. Practical Applications of Data Obtained From an Accelerometer
  - 8.6.6. Position Transducers
    - 8.6.6.1. Types of Transducers for Vertical and Horizontal Movements
    - 8.6.6.2. Variables Measured and Estimated by of a Position Transducer
    - 8.6.6.3. Data Obtained from a Position Transducer and its Applications to Training Programming
  - 8.6.7. Strength Platforms
    - 8.6.7.1. Types and Characteristics.of Strength Platforms
    - 8.6.7.2. Variables Measured and Estimated by Means of a Strength Platform
    - 8.6.7.3. Practical Approach to Training Programming
  - 8.6.8. Load Cells
    - 8.6.8.1. Cell Types, Characteristics and Performance
    - 8.6.8.2. Uses and Applications for Sports Performance and Health
  - 8.6.9. Photoelectric Cells
    - 8.6.9.1. Characteristics , and Limitations of the Devices
    - 8.6.9.2. Practical Uses and Applicability
  - 8.6.10. Mobile Applications
    - 8.6.10.1. Description of the Most Used Apps on the Market: My Jump, PowerLift, Runmatic, Nordic
- 8.7. Internal and External Load
  - 8.7.1. Objective Means of Assessment
    - 8.7.1.1. Speed of Execution
    - 8.7.1.2. Average Mechanical Power
    - 8.7.1.3. GPS Device Metrics

- 8.7.2. Subjective Means of Assessment
  - 8.7.2.1. PSE
  - 8.7.2.2. sPSE
  - 8.7.2.3. Chronic/Acute Load Ratio
- 8.8. Fatigue
  - 8.8.1. Fatigue and Recovery
  - 8.8.2. Assessments
    - 8.8.2.1. Laboratory Objectives: CK, Urea, Cortisol, Etc.
    - 8.8.2.2. Field Objectives: CMJ, Isometric Tests, etc.
    - 8.8.2.3. Subjective: Wellness Scales, TQR, etc.
  - 8.8.3. Recovery Strategies: Cold-Water Immersion, Nutritional Strategies, Self-Massage, Sleep
- 8.9. Considerations for Practical Applications
  - 8.9.1. Vertical Jump Test Practical Applications
  - 8.9.2. Maximum/Submaximum Incremental Progressive Test Practical Applications
  - 8.9.3. Vertical Strength-Speed Profile. Practical Applications

## Module 9. Strength Training

- 9.1. Strength
  - 9.1.1. Strength from Mechanics
  - 9.1.2. Strength from Physiology
  - 9.1.3. Applied Strength
  - 9.1.4. Time-Strength Curve
    - 9.1.4.1. Interpretation
  - 9.1.5. Maximum Strength Training
  - 9.1.6. RFD
  - 9.1.7. useful strength
  - 9.1.8. Strength- Speed-Power Curves
    - 9.1.8.1. Interpretation
  - 9.1.9. Strength Deficit

- 9.2. Training Load
  - 9.2.1. Strength Training Load
  - 9.2.2. The Load
  - 9.2.3. The Load: Volume
  - 9.2.4. The Load: Intensity
  - 9.2.5. The Load: Density
  - 9.2.6. Nature of the Effort
- 9.3. Strength Training in the Prevention and Rehabilitation of Injuries
  - 9.3.1. Prevention and Rehabilitation of Injuries
    - 9.3.1.1. Terminology.
    - 9.3.1.2. Concepts
  - 9.3.2. Strength Training and Injury Prevention and Rehabilitation Under Scientific Evidence
  - 9.3.3. Methodological Process of Strength Training in Injury Prevention and Functional Recovery
    - 9.3.3.1. The Method
    - 9.3.3.2. Applying the Method in Practice
  - 9.3.4. Role of Core Stability (CORE) in Injury Prevention
    - 9.3.4.1. CORE
    - 9.3.4.2. CORE Training
- 9.4. Plyometric Method
  - 9.4.1. Physiological Mechanisms
  - 9.4.2. Muscle Actions in Plyometric Exercises
  - 9.4.3. The Stretch - Shortening Cycle (CEA)
    - 9.4.3.1. Use of Energy or Elastic Capacity
    - 9.4.3.2. Reflex Involvement Series and Parallel Elastic Energy Accumulation
  - 9.4.4. CEA Classification Scheme
    - 9.4.4.1. Short CEA
    - 9.4.4.2. Long CEA
  - 9.4.5. Properties of the Muscle and Tendon
  - 9.4.6. Central Nervous System
    - 9.4.6.1. Recruitment
    - 9.4.6.2. Frequency (F)
    - 9.4.6.3. Synchronization

- 9.5. Power Training
  - 9.5.1. Power
    - 9.5.1.1. Power
    - 9.5.1.2. The Importance of Power in a Context of Sport Performance
    - 9.5.1.3. Clarification of Power Terminology
  - 9.5.2. Factors Contributing to Peak Power Development
  - 9.5.3. Structural Aspects Conditioning Power Production
    - 9.5.3.1. Muscle Hypertrophy
    - 9.5.3.2. Muscle Structure
    - 9.5.3.3. Ratio of Fast and Slow Fibers in a Cross Section
    - 9.5.3.4. Muscle Length and its Effect on Muscle Contraction
    - 9.5.3.5. Quantity and Characteristics of Elastic Components
  - 9.5.4. Neural Aspects Conditioning Power Production
    - 9.5.4.1. Action Potential
    - 9.5.4.2. Speed of Motor Unit Recruitment
    - 9.5.4.3. Muscle Coordination
    - 9.5.4.4. Intermuscular Coordination
    - 9.5.4.5. Prior Muscle Status (PAP)
    - 9.5.4.6. Neuromuscular Reflex Mechanisms and Their Incidence
  - 9.5.5. Theoretical Aspects for Understanding the Force-Time Curve
    - 9.5.5.1. Strength Impulse
    - 9.5.5.2. Phases of the Force-Time Curve
    - 9.5.5.3. Acceleration Phases of the Force-Time Curve
    - 9.5.5.4. Maximum Acceleration Area of the Force-Time Curve
    - 9.5.5.5. Slowing Phase of the Force-Time Curve
  - 9.5.6. Theoretical Aspects for Understanding Power Curves
    - 9.5.6.1. Power-Time Curve
    - 9.5.6.2. Power-Displacement Curve
    - 9.5.6.3. Optimal Workload for Maximum Power Development
- 9.6. Vector Strength Training
  - 9.6.1. The Strength Vector
    - 9.6.1.1. Axial Vector
    - 9.6.1.2. Horizontal Vector
    - 9.6.1.3. Rotational Vector
  - 9.6.2. Benefits of Using this Terminology
  - 9.6.3. Basic Vectors in Training
    - 9.6.3.1. The Main Sporting Gestures
    - 9.6.3.2. The Main Overload Exercises
    - 9.6.3.3. The Main Training Exercises
- 9.7. Main Methods for Strength Training
  - 9.7.1. Own Body Weight
  - 9.7.2. Free Exercises
  - 9.7.3. P.A.P.
    - 9.7.3.1. Definition
    - 9.7.3.2. Application of PAP Prior to Energy-Related Sports Disciplines
  - 9.7.4. Exercises with Machines
  - 9.7.5. Complex Training
  - 9.7.6. Exercises and Their Transfer
  - 9.7.7. Contrasts
  - 9.7.8. Cluster Training
- 9.8. VBT
  - 9.8.1. Applying VBT
    - 9.8.1.1. Degree of Stability of Execution Speed with Each Percentage of 1MR
  - 9.8.2. Scheduled Load and Actual Load
    - 9.8.2.1. Variables Involved in the Difference Between Programmed Load and Actual Training Load
  - 9.8.3. VBT as a Solution to the Problem of Using 1MR and nMR to Program Loads
  - 9.8.4. VBT and Degree of Fatigue
    - 9.8.4.1. Connection to Lactate
    - 9.8.4.2. Connection to Ammonium
  - 9.8.5. VBT in Relation to the Loss of Speed and Percentage of Repetitions Performed
    - 9.8.5.1. Define the Different Degrees of Effort in the Same Series
    - 9.8.5.2. Different Adaptations According to the Degree of Speed Loss in the Series
  - 9.8.6. Methodological Proposals According to Different Authors
- 9.9. Strength in Connection to Hypertrophy
  - 9.9.1. Hypertrophy-Inducing Mechanism: Mechanical Stress
  - 9.9.2. Hypertrophy-Inducing Mechanism: Metabolic Stress
  - 9.9.3. Hypertrophy-Inducing Mechanism: Muscle Damage

- 9.9.4. Hypertrophy Programming Variables
  - 9.9.4.1. Frequency (F)
  - 9.9.4.2. Volume
  - 9.9.4.3. Intensity
  - 9.9.4.4. Cadence
  - 9.9.4.5. Series and Repetitions
  - 9.9.4.6. Density
  - 9.9.4.7. Order in the Execution of Exercises
- 9.9.5. Training Variables and Their Different Structural Effects
  - 9.9.5.1. Effect on Different Types of Fiber
  - 9.9.5.2. Effects on the Tendon
  - 9.9.5.3. Bundle Length
  - 9.9.5.4. Angle of Pennea
- 9.10. Eccentric Strength Training
  - 9.10.1. Eccentric Training
    - 9.10.1.1. Eccentric Training
    - 9.10.1.2. Different Types of Eccentric Training
  - 9.10.2. Eccentric Training and Performance
  - 9.10.3. Eccentric Training in the Prevention and Rehabilitation of Injuries
  - 9.10.4. Technology Applied to Eccentric Training
    - 9.10.4.1. Conical Pulleys
    - 9.10.4.2. Isoinertial Devices

## Module 10. Indoor Targeted Personal Training

- 10.1. Metabolic Syndrome
  - 10.1.1. Metabolic Syndrome
  - 10.1.2. Epidemiology of Metabolic Syndrome
  - 10.1.3. The Patient with Syndrome, Considerations for Intervention.
- 10.2. Pathophysiological Bases
  - 10.2.1. Definition of Metabolic Syndrome and Health Risks
  - 10.2.2. Pathophysiological Aspects of the Disease

- 10.3. Assessment and Diagnosis
  - 10.3.1. Metabolic Syndrome and its Assessment in the Clinical Setting
  - 10.3.2. Biomarkers, Clinical Indicators and Metabolic Syndrome
  - 10.3.3. Metabolic Syndrome and its Assessment and Monitoring by the Physical Exercise Specialist
  - 10.3.4. Diagnosis and Intervention Protocol in Metabolic Syndrome
- 10.4. Protocols and Treatments
  - 10.4.1. Lifestyle and its Relationship to Metabolic Syndrome
  - 10.4.2. Nutrition and Its Importance in Metabolic Syndrome
  - 10.4.3. Exercise: Role in the Metabolic Syndrome
  - 10.4.4. The Patient with Metabolic Syndrome and Pharmacologic Treatment: Considerations for the Exercise Professional.
- 10.5. Indoor Training Plan with Patients with Metabolic Syndrome
  - 10.5.1. Customer Level Specification
  - 10.5.2. Objectives
  - 10.5.3. Assessment Processes
  - 10.5.4. Operability with Respect to Spatial and Material Resources
- 10.6. Programming of Indoor Strength Training
  - 10.6.1. Objectives of Strength Training in Metabolic Syndrome
  - 10.6.2. Volume, Intensity and Recovery of Strength Training for Metabolic Syndrome
  - 10.6.3. Selection of Exercises and Methods of Strength Training for People with Metabolic Syndrome
  - 10.6.4. Design of Strength Training Programs in Metabolic Syndrome People
- 10.7. Indoor Resistance Training Program
  - 10.7.1. Objectives of Resistance Training in Metabolic Syndrome
  - 10.7.2. Volume and Intensity and Recovery from Resistance Training for People with Metabolic Syndrome
  - 10.7.3. Choice of Exercises and Methods of Resistance Training for People with Metabolic Syndrome
  - 10.7.4. Design of Resistance Training Programs for People with Metabolic Syndrome
- 10.8. Precautions and Contraindications in Indoor Training
  - 10.8.1. Assessments for the Performance of Physical Exercise in the Population with Metabolic Syndrome
  - 10.8.2. Contraindications Regarding the Development of Activity in Patients with Metabolic Syndrome



10.9. Nursing Nutrition and Lifestyle in Patients with Metabolic Syndrome

10.9.1. Nutritional Aspects in Metabolic Syndrome

10.9.2. Examples of Nutritional Intervention in Metabolic Syndrome

10.10. Design of Indoor Training Programs for Patients with Metabolic Syndrome

10.10.1. Design of Diabetes Training Programs

10.10.2. Design of Diabetes Training Sessions

10.10.3. Design of Global Intervention Programs (Inter-Multidisciplinary) in Diabetes

# 07

# Internship

After passing the online education period, the program includes an internship period in a reference sports center. The student will have at their disposal the support of a tutor who will accompany them throughout the process, both in the preparation and in the development of the internship.





“

*With this program, you will be able to learn everything you need to manage a gym and run a group class with people with metabolic pathologies”*

The internship period of this program consists of a 3-week internship in a prestigious sports center. Therefore, this period will be carried out with the assistance of an associate specialist. Thanks to this, the student will carry out professional activities alongside a professional team of reference in the area of Sports Sciences, applying the most innovative and latest generation of sports procedures.

In this training proposal, completely practical in nature, the activities are aimed at developing and perfecting the skills necessary for the provision of sports care in areas and conditions that require a high level of qualification, and are oriented towards specific training for the exercise of the activity, in a safe environment and high professional performance.

This is, without a doubt, an excellent opportunity to learn how to apply the latest trends in physical training, working in a sports center for 120 hours.

The practical part will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other training partners that facilitate teamwork and multidisciplinary integration as transversal competencies for the praxis of physical therapy (learning to be and learning to relate).

The procedures described below will be the basis of the practical part of the training, and their implementation will be subject to the center's own availability and workload, the proposed activities being the following:



Module	Practical Activity
<b>Exercise Physiology and Physical Activity</b>	Master the process of protein synthesis and degradation
	Know how energy systems condition the performance of physical training
	Analyze the different mechanisms that make possible the measuring fatigue possible
	Examine the conditions to be taken into account for the safe performance of sports in extreme physiological conditions
<b>Mobility Training</b>	Establish the most useful exercises for mobility training
	Determine the most efficient methods of muscle recovery at the present time
	Apply the most appropriate mobility training techniques based on the characteristics of the athlete
	Carry out training plans oriented to the improvement of joint mobility
<b>Group Classes</b>	Determine the particularities of mobility required by an injured athlete in order to optimize the recovery process
	Master the principles of load control in group classes
	Analyze the necessary aspects to deliver the GAP practice in a safe way
	Manage the strategies to maximize the athlete's performance in functional training
<b>Strength Training</b>	Know the particularities of classes for adults over 65 years old
	Master the latest mechanisms to evaluate strength
	Program strength training oriented to injury prevention and rehabilitation
	Analyze the keys to power training
<b>Indoor Targeted Personal Training</b>	Establish the relationship between strength and muscular hypertrophy
	Planning an indoor workout for patients with metabolic syndrome
	Program an in-room strength-training program
	Elaborate an in-room resistance training program
	Assess the existing precautions and contraindications in indoor training

## Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



## General Conditions of the Internship Program

The general terms and conditions of the internship program agreement shall be as follows:

**1. TUTOR:** During the Hybrid Professional Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

**2. DURATION:** The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

**3. ABSENCE:** If the student does not show up on the start date of the Hybrid Professional Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

**4. CERTIFICATION:** Professionals who pass the Hybrid Professional Master's Degree will receive a certificate accrediting their stay at the center.

**5. EMPLOYMENT RELATIONSHIP:** the Hybrid Professional Master's Degree shall not constitute an employment relationship of any kind.

**6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Hybrid Professional Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

**7. DOES NOT INCLUDE:** The Hybrid Professional Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed.

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

08

# Where Can I Do the Internship?

In order to offer quality education within the reach of most people, TECH has strategic alliances to carry out this program in a center of high prestige and innovation. A unique opportunity that allows the professional to continue to grow their career alongside the best specialists in the sector in various reference clinics.





“

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



The student will be able to complete the practical part of this Hybrid Professional Master's Degree at the following centers:



Sports Science

### Altafit - Odeón

Country	City
Spain	La Coruña

Management: Polígono Ind la, Rúa Cataluña, 20, 15570 Gandara, A Coruña

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Vitoria Guridi

Country	City
Spain	Álava

Management: San Prudencio Kalea, 6, 01005 Gasteiz, Álava

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Vitoria los Herrán

Country	City
Spain	Álava

Management: C. de los Herrán, 34, 01004 Vitoria-Gasteiz, Álava

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

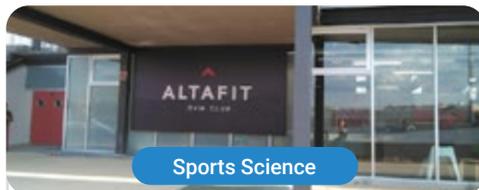
### Altafit - Albacete

Country	City
Spain	Albacete

Management: C. San José de Calasanz, 8-10, 02002 Albacete

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - San Vicente Velódromo

Country	City
Spain	Alicante

Management: Complejo Deportivo Sur, C/ Major, s/n, 03690, Alicante

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Benidorm

Country	City
Spain	Alicante

Management: Avd. L' Aigüera, 11, 03502 Benidorm, Alicante

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

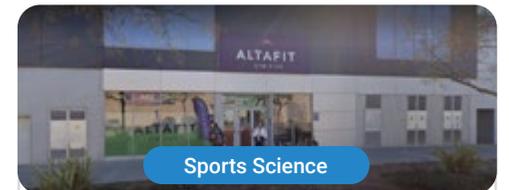
### Altafit - Badajoz

Country	City
Spain	Badajoz

Management: Calle Ricardo Carapeto Zambrano, S/N, 06008 Badajoz

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Terrassa

Country	City
Spain	Barcelona

Management: Carrer Navarra, 10, 08227 Terrassa, Barcelona

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Diagonal

Country: Spain City: Barcelona

Management: C/ de Mallorca, 318, 08037 Barcelona

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Paralelo

Country: Spain City: Barcelona

Management: Carrer de Vila i Vilà, 50-52, 08004 Barcelona

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Burgos Pentasa

Country: Spain City: Burgos

Management: C. Juan Ramón Jiménez, 1, 09007 Burgos

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Cáceres

Country: Spain City: Cáceres

Management: Av. de España, 15, 10002 Cáceres

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Cádiz Loreto

Country: Spain City: Cadiz

Management: Av. Alcalde Manuel de la Pinta, 24, 11011 Cádiz

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Chiclana

Country: Spain City: Cadiz

Management: Av. de los Descubrimientos, 1, 11130 Chiclana de la Frontera, Cádiz

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Cádiz

Country: Spain City: Cadiz

Management: 8, C. Miguel Martínez de Pinillos, 5, 11008 Cádiz

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Donostia

Country: Spain City: Gipuzkoa.

Management: Peña y Goñi Kalea, 12, 14, 20002 Donostia-San Sebastian, Gipuzkoa

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Logroño

Country	City
Spain	

Management:  
C. Duquesa de la Victoria,  
32, 26004 Logroño, La Rioja  
Network of innovative gyms with more than 80 centers  
throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - 7 Palmas

Country	City
Spain	Las Palmas

Management:  
Centro Comercial 7Palmas, Av Pintor  
Felo Monzón, 44, 35019 Las Palmas de Gran  
Canaria, Las Palmas  
Network of innovative gyms with more than 80 centers  
throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Las Arenas

Country	City
Spain	Las Palmas

Management:  
Centro Comercial Las Arenas, Local  
T19, Ctra. del Rincón, S/N, 35010 Las Palmas  
de Gran Canaria, Las Palmas  
Network of innovative gyms with more than 80 centers  
throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Vegueta

Country	City
Spain	Las Palmas

Management:  
C. Bernardino Correa Viera, 8, 35002  
Las Palmas de Gran Canaria, Las Palmas  
Network of innovative gyms with more than 80 centers  
throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - León Plaza

Country	City
Spain	León

Management:  
Centro Comercial León Plaza,  
Av. los Peregrinos, 8, 24008 León  
Network of innovative gyms with more than 80 centers  
throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Ponferrada

Country	City
Spain	León

Management: Av. de la Constitución, 2, 24404  
Ponferrada, León  
Network of innovative gyms with more than 80 centers  
throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Lugo

Country	City
Spain	Lugo

Management: Av. Reverendo Xosé Fernández  
Núñez, 10, 27004 Lugo  
Network of innovative gyms with more than 80 centers  
throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Parquesur

Country	City
Spain	Madrid

Management: Av. de Gran Bretaña, 28916  
Leganes, Madrid  
Network of innovative gyms with more than 80 centers  
throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Loranca

Country	City
Spain	Madrid

Management: Av. de Pablo Iglesias, 25, 28942 Fuenlabrada, Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Vistalegre

Country	City
Spain	Madrid

Management: Av. de Ntra. Sra. de Fátima, 34, 28047 Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Ciudad Lineal

Country	City
Spain	Madrid

Management: C. de los Hermanos García Noblejas, 43, 28037 Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Majadahonda

Country	City
Spain	Madrid

Management: Av. de los Reyes Católicos, 8, 28220 Majadahonda, Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Vallecas

Country	City
Spain	Madrid

Management: C. de Valderrebollo, 1, 28031 Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Leganés Centro

Country	City
Spain	Madrid

Management: C. del Aligustre, 5-1, 28912 Leganés, Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Puerta Del Sol

Country	City
Spain	Madrid

Management: C. Mayor, 6, 28013 Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - San Sebastián de los Reyes

Country	City
Spain	Madrid

Management: P.º de Europa, 28, 28703 San Sebastián de los Reyes, Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Santa Eugenia

Country	City
Spain	Madrid

Management:  
Av. de Santa Eugenia,  
6, 28031 Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Alcalá de Henares

Country	City
Spain	Madrid

Management:  
c/Ronda fiscal, P.º de Pastrana, 8 esq,  
28803 Alcalá de Henares, Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Alcalá El Val

Country	City
Spain	Madrid

Management:  
C. Valladolid, s/n, 28804 Alcalá  
de Henares, Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Conde de Casal

Country	City
Spain	Madrid

Management:  
Av. del Mediterráneo, 50, 28007 Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Madrid Río

Country	City
Spain	Madrid

Management:  
Cl. del Mármol, 5, 28005 Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Rivas

Country	City
Spain	Madrid

Management: C. de la Madera, 19, 28522  
Rivas-Vaciamadrid, Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Fuenlabrada

Country	City
Spain	Madrid

Management:  
Centro Comercial Las Provincias, Av. de las  
Provincias, 18, 28941 Fuenlabrada, Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Palacio De Vistalegre

Country	City
Spain	Madrid

Management:  
Av. de la Plaza de Toros, s/n,  
28025 Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



### Altafit - Estudiantes

Country	City
Spain	Madrid

Management:  
C. Serrano, 127, 28006 Madrid

Network of innovative gyms with more than 80 centers throughout Spain.

**Related internship programs:**  
-Fitness Instructor



### Altafit - Fuengirola

Country	City
Spain	Malaga

Management: C. Francisco de Pizarro, 2,  
29640 Fuengirola, Málaga

Network of innovative gyms with more than 80 centers throughout Spain.

**Related internship programs:**  
-Fitness Instructor



### Altafit - Vélez-Málaga

Country	City
Spain	Malaga

Management:  
Avenida Juan Carlos I, s/n, CC  
El Ingenio, 29740 Torre del Mar, Málaga

Network of innovative gyms with more than 80 centers throughout Spain.

**Related internship programs:**  
-Fitness Instructor



Sports Science

### Altafit - Porto Pi

Country	City
Spain	Balears

Management:  
Centro Comercial, Av. de Gabriel Roca,  
54, 07015 Palma, Balearic Islands

Network of innovative gyms with more than 80 centers  
throughout Spain.

**Related internship programs:**

-Fitness Instructor



Sports Science

### Altafit - Molina de Segura

Country	City
Spain	Murcia

Management: Av. de Granada, s/n, 30500  
Molina de Segura, Murcia

Network of innovative gyms with more than 80 centers  
throughout Spain.

**Related internship programs:**

-Fitness Instructor



Sports Science

### Altafit - Murcia

Country	City
Spain	Murcia

Management:  
Rda. de Levante, 15, 30008 Murcia

Network of innovative gyms with more than 80 centers  
throughout Spain.

**Related internship programs:**

-Fitness Instructor



Sports Science

### Altafit - Pamplona Estación

Country	City
Spain	Navarra

Management: C. Yanguas y Miranda, 2, 31003  
Pamplona, Navarra

Network of innovative gyms with more than 80 centers  
throughout Spain.

**Related internship programs:**

-Fitness Instructor



Sports Science

### Altafit - Pamplona Iturrama

Country	City
Spain	Navarra

Management:  
Av. de Sancho El Fuerte, 8, 31007  
Pamplona, Navarra

Network of innovative gyms with more than 80 centers  
throughout Spain.

**Related internship programs:**

-Fitness Instructor



Sports Science

### Altafit - Ansoáin

Country	City
Spain	Navarra

Management:  
C. José María Jimeno Jurío, 31013  
Ansoáin, Navarra

Network of innovative gyms with more than 80 centers  
throughout Spain.

**Related internship programs:**

-Fitness Instructor



Sports Science

### Altafit - Ronda Norte

Country	City
Spain	Navarra

Management: C. Bizkarmendia, 2, 31600  
Burlada, Navarra

Network of innovative gyms with more than 80 centers  
throughout Spain.

**Related internship programs:**

-Fitness Instructor



Sports Science

### Altafit - Gijón Natahoyo

Country	City
Spain	Asturias

Management:  
C. de Rosalía de Castro, 4, 33212  
Gijón, Asturias

Network of innovative gyms with more than 80 centers  
throughout Spain.

**Related internship programs:**

-Fitness Instructor



Sports Science

### Altafit - Gijón San Agustín

Country City  
Spain Asturias

Management: Pl. Romualdo Alvargonzález Lanquine, 33202 Gijón, Asturias

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Oviedo

Country City  
Spain Asturias

Management:  
C. Matemático Pedrayes, 9, 33004 Oviedo, Asturias

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Oviedo Ayala

Country City  
Spain Asturias

Management:  
C. Matemático Pedrayes, 2, 33004 Oviedo, Asturias

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Vigo Pza. Elíptica

Country City  
Spain Pontevedra

Management: C. C. Plaza Elíptica, Praza Francisco Fernández del Riego, s/n, 36203 Vigo, Pontevedra

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Salamanca

Country City  
Spain Salamanca

Management: P.º de la Estación, 122, 37004 Salamanca, Centro Comercial Vialia Salamanca

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Tenerife

Country City  
Spain Santa Cruz de Tenerife

Management:  
Calle Sgto. Provisional, S/N, 38010 Santa Cruz de Tenerife

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Arena Valencia

Country City  
Spain Valencia

Management:  
C.C. Arena Multiespacio, C. de Santa Genoveva Torres, Torre, 21, 46019 Valencia

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Valencia Campanar

Country City  
Spain Valencia

Management:  
Plaça del Pare Domènec, 5, 46009 València, Valencia

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Valencia Uruguay

Country	City
Spain	Valencia

Management: C. de l'Uruguai, 11, 46007 València, Valencia

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Valencia Parque Central

Country	City
Spain	Valencia

Management: Carrer de les Filipines, 39, 46006 València, Valencia

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Deusto

Country	City
Spain	Vizcaya

Management: Centro Comercial Bidarte, Madariaga Etorbidea, 24, 48014 Bilbao, Vizcaya

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Miribilla

Country	City
Spain	Vizcaya

Management: Espinosa Orive Doktoarean Kalea, 5, 48003 Bilbo, Vizcaya

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Zaragoza Delicias

Country	City
Spain	Zaragoza

Management: C. Santander, 30, 50010 Zaragoza

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Ballonti

Country	City
Spain	Vizcaya

Management: Ballonti Etorb., 1, 48920 Portugalete, Vizcaya

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Getxo Leioa

Country	City
Spain	Vizcaya

Management: Amaia Kalea, 29, 48930 Getxo, Vizcaya

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Bilbao Abando

Country	City
Spain	Vizcaya

Management: José María Olavarri Kalea, 1, 48001 Bilbo, Vizcaya

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs:  
-Fitness Instructor



Sports Science

### Altafit - Zaragoza

Country: Spain City: Zaragoza

Management: Av. Cesáreo Alierta, 9, 50008 Zaragoza

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs: -Fitness Instructor



Sports Science

### Altafit - Zaragoza Gran Casa

Country: Spain City: Zaragoza

Management: C. de María Zambrano, 35, 50018 Zaragoza

Network of innovative gyms with more than 80 centers throughout Spain.

Related internship programs: -Fitness Instructor



Sports Science

### Crys Dyaz & Co

Country: Spain City: Madrid

Management: Cl. de la Azalea, 1, 28109 Alcobendas, Madrid

Company for the promotion of physical activity and sports during pregnancy and the postpartum period.

Related internship programs: -Fitness Instructor



Sports Science

### Club Metropolitan Sagrada Familia

Country: Spain City: Barcelona

Management: C/ de Provenza, 408, 08025 Barcelona  
The largest national chain of Sports, Health and Wellness Centers in Spain.

Related internship programs: -Therapeutic Personal Training -Fitness Instructor



Sports Science

### Club Metropolitan Iradier

Country: Spain City: Barcelona

Management: C/ de les Escoles Pies, 105, 08017 Barcelona

The largest national chain of Sports, Health and Wellness Centers in Spain.

Related internship programs: -Therapeutic Personal Training -Fitness Instructor



Sports Science

### Club Metropolitan Balmes

Country: Spain City: Barcelona

Management: C/ de Balmes, 215, 08006 Barcelona

The largest national chain of Sports, Health and Wellness Centers

Related internship programs: -Therapeutic Personal Training -Fitness Instructor



Sports Science

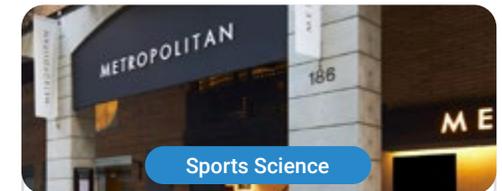
### Club Metropolitan Las Arenas

Country: Spain City: Barcelona

Management: Gran Via de les Corts Catalanes, 373, 385, 08015 Barcelona

The largest national chain of Sports, Health and Wellness Centers

Related internship programs: -Therapeutic Personal Training -Fitness Instructor



Sports Science

### Club Metropolitan Galileo

Country: Spain City: Barcelona

Management: C/ de Galileu, 186, 08028 Barcelona

The largest national chain of Sports, Health and Wellness Centers

Related internship programs: -Therapeutic Personal Training -Fitness Instructor



Sports Science

### Club Metropolitan Badalona

Country	City
Spain	Barcelona

Management: C. de Sant Miquel, 16, 08911 Badalona, Barcelona

The largest national chain of Sports, Health and Wellness Centers in Spain.

**Related internship programs:**

- Therapeutic Personal Training
- Fitness Instructor



Sports Science

### Club Metropolitan Gran Vía

Country	City
Spain	Barcelona

Management:

Avinguda de la Granvia de l'Hospitalet, 142, 08907 L'Hospitalet de Llobregat, Barcelona

The largest national chain of Sports, Health and Wellness Centers

**Related internship programs:**

- Therapeutic Personal Training
- Fitness Instructor



Sports Science

### Club Metropolitan Abascal

Country	City
Spain	Madrid

Management: Calle de José Abascal, 46, 28003 Madrid

The largest national chain of Sports, Health and Wellness Centers in Spain.

**Related internship programs:**

- Therapeutic Personal Training
- Fitness Instructor



Sports Science

### Club Metropolitan Eurobuilding

Country	City
Spain	Madrid

Management:

Hotel NH Collection Madrid Eurobuilding, Planta Superior Hotel NH Collection Eurobuilding, 28036, C. del Padre Damián, 23, 28036 Madrid

The largest national chain of Sports, Health and Wellness Centers in Spain.

**Related internship programs:**

- Therapeutic Personal Training
- Fitness Instructor



Sports Science

### Club Metropolitan Isozaki

Country	City
Spain	Vizcaya

Management: Paseo Uribitarte, 4, Ext, 48001 Bilbao, Vizcaya

The largest national chain of Sports, Health and Wellness Centers

**Related internship programs:**

- Therapeutic Personal Training
- Fitness Instructor



Sports Science

### Club Metropolitan Begoña

Country	City
Spain	Vizcaya

Management: Masustegi Kalea, 25, 48006 Bilbao, Vizcaya

The largest national chain of Sports, Health and Wellness Centers

**Related internship programs:**

- Therapeutic Personal Training
- Fitness Instructor



Sports Science

### Club Metropolitan Romareda

Country	City
Spain	Zaragoza

Management:

C/ de Gonzalo Calamita, s/n, 50009 Zaragoza

The largest national chain of Sports, Health and Wellness Centers

**Related internship programs:**

- Therapeutic Personal Training
- Fitness Instructor



Sports Science

### Club Metropolitan Paraíso

Country	City
Spain	Zaragoza

Management: Residencial Paraíso, 10, 50008 Zaragoza

The largest national chain of Sports, Health and Wellness Centers

**Related internship programs:**

- Therapeutic Personal Training
- Fitness Instructor



Sports Science

### Club Metropolitan Sevilla

Country	City
Spain	Sevilla

Management:  
Av. Eduardo Dato, 49, 41018 Sevilla  
The largest national chain of Sports, Health and Wellness Centers

**Related internship programs:**  
- Therapeutic Personal Training  
- Fitness Instructor



Sports Science

### Club Metropolitan Gijón

Country	City
Spain	Asturias

Management: Estadio El Molinón Enrique Castro - Quini, Puerta 8, 33201 Gijón, Asturias  
The largest national chain of Sports, Health and Wellness Centers

**Related internship programs:**  
- Therapeutic Personal Training  
- Fitness Instructor



Sports Science

### Club Metropolitan Vigo

Country	City
Spain	Pontevedra

Management:  
Rúa Cánovas del Castillo, 1,  
36202 Vigo, Pontevedra  
The largest national chain of Sports, Health and Wellness Centers

**Related internship programs:**  
- Therapeutic Personal Training  
- Fitness Instructor



Sports Science

### Club Metropolitan La Solana

Country	City
Spain	La Coruña

Management: P.º Marítimo Alcalde Francisco Vázquez, 21, 15001 A Coruña  
The largest national chain of Sports, Health and Wellness Centers

**Related internship programs:**  
- Therapeutic Personal Training  
- Fitness Instructor



Sports Science

### Carmen Trainer

Country	City
Spain	Madrid

Management: Calle Velázquez, 73, Sótano  
28006 Madrid  
Carmen Trainer is a center that specializes in achieving the physical objectives of its clients through a correct execution of the exercises to avoid possible ailments or injuries.

**Related internship programs:**  
- Fitness Instructor



Sports Science

### Olympus Center

Country	City
Spain	Madrid

Management:  
Calle de Palos de la Frontera, 16,  
28012 Madrid  
Olympus Center specializes in meeting the objectives of the person, according to their physical condition.

**Related internship programs:**  
- High Performance in Sports  
- Fitness Instructor



Sports Science

### MoveBon

Country	City
Spain	Madrid

Management:  
Calle de García de Paredes,  
42, 28010 Madrid  
MoveBon, a center specialized in small group trainings, outdoor or online sessions

**Related internship programs:**  
- Therapeutic Personal Training  
- Fitness Instructor



Sports Science

### Fitness 4 All

Country	City
Spain	Madrid

Management: C. de Virgen de Lluç, 104,  
28027 Madrid  
For the people who come, it is a different experience, a new concept of gymnasium.

**Related internship programs:**  
- Therapeutic Personal Training  
- Fitness Instructor

# 09 Method

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.





“

*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.

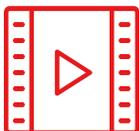
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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.



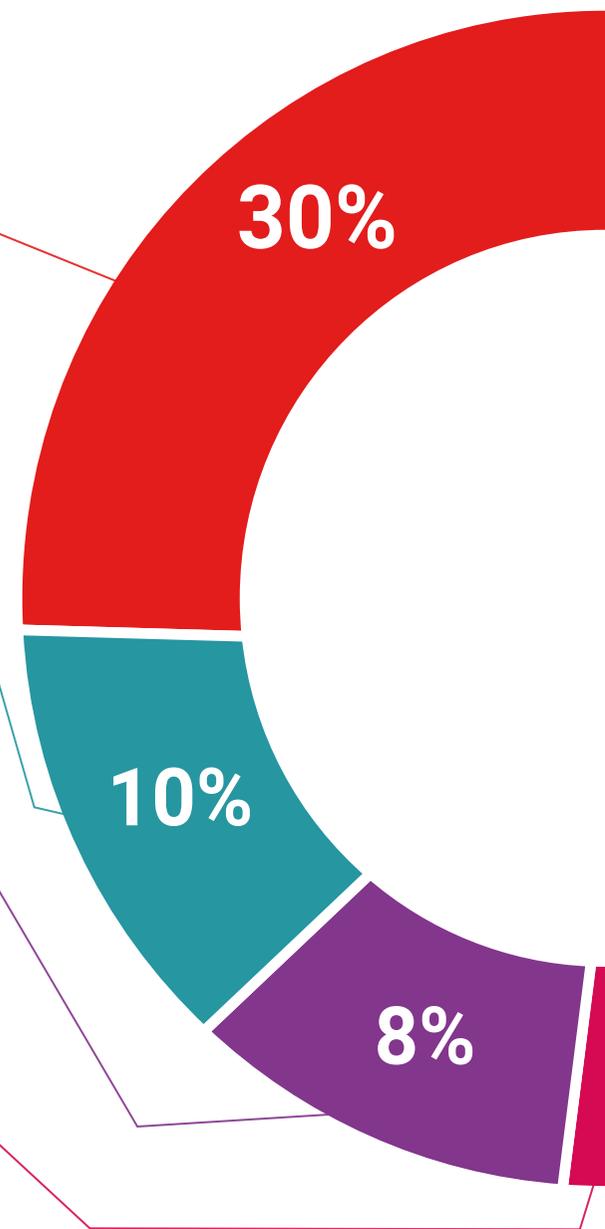
### Practising Skills and Abilities

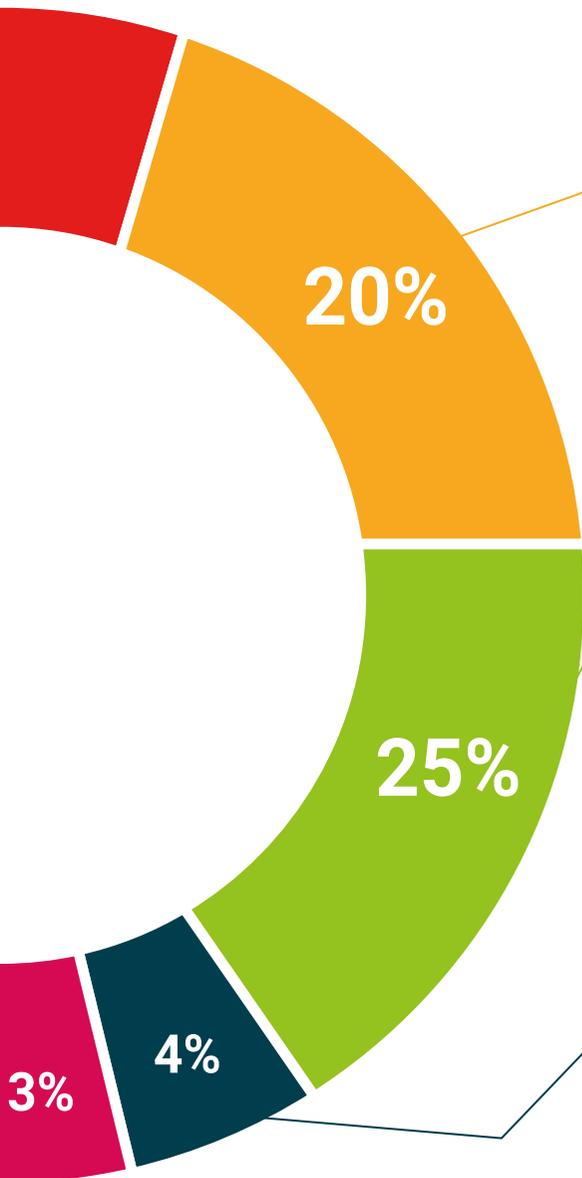
They will carry out activities to develop specific competencies and skills in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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.



# 10 Certificate

The Hybrid Professional Master's Degree in Fitness Instructor guarantees students, in addition to the most rigorous and up-to-date education, access to a Hybrid Professional Master's Degree diploma issued by TECH Global University.



“

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

This program will allow you to obtain your **Hybrid Professional Master's Degree diploma in Fitness Instructor** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

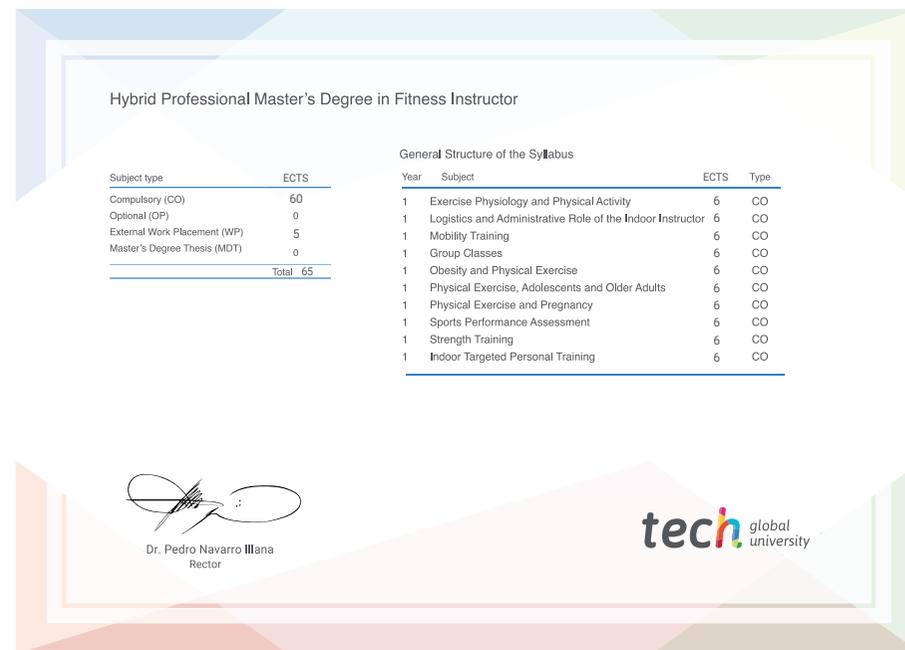
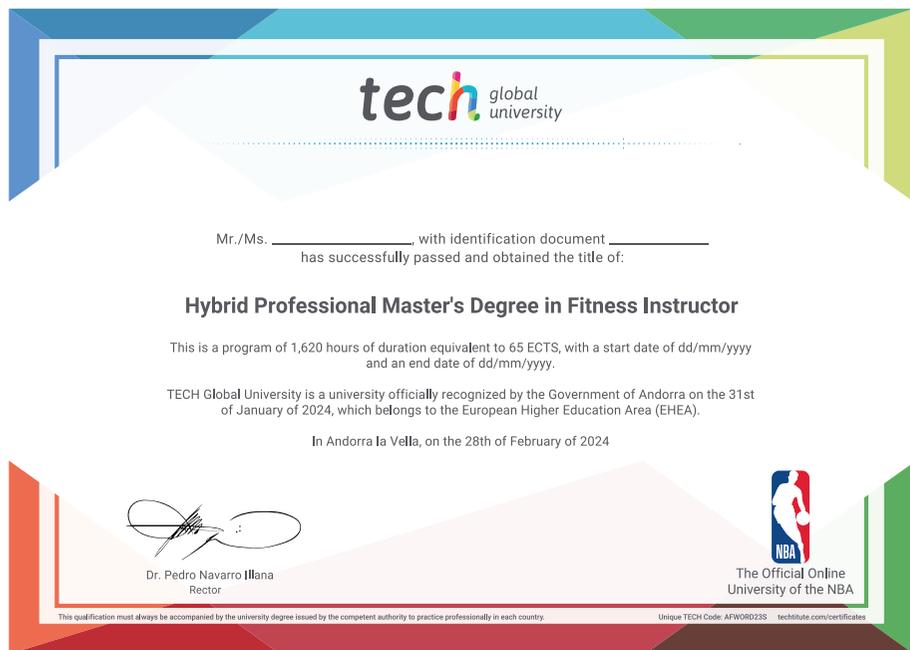
Title: **Hybrid Professional Master's Degree in Fitness Instructor**

Course Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months**

Certificate: **TECH Global University**

Recognition: **60 + 5 ECTS Credits**



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University 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 quality  
development language  
virtual classroom



## Hybrid Professional Master's Degree

Fitness Instructor

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

60 + 5 ECTS Credits

# Hybrid Professional Master's Degree Fitness Instructor

Endorsed by the NBA



**tech** global  
university