

# Postgraduate Diploma Sports Medicine

Endorsed by the NBA





## Postgraduate Diploma Sports Medicine

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-sports-medicine](http://www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-sports-medicine)

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# 01

# Introduction

Many injury prevention programs have been studied and implemented over the years in an attempt to reduce the frequency and severity of sports injuries. These programs meant to classify the injuries to try to determine their possible causes and mechanisms. In this 100% online program, physicians will delve deeper into how to recognize sports injuries by acquiring the most updated and necessary knowledge to know why they occur and, above all, how to prevent them. Thanks to this high-level course, physicians will take a deeper look inside the branch of medicine, laying the scientific foundations to understand health and sport in the most innovative way possible.





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*This Postgraduate Diploma offers you a complete and in-depth vision, both in sports injuries and athlete evaluations”*

Given the prevalence of physical injuries in sports nowadays, we must think in terms of physiology when dealing with sports injuries. In this sense, this Postgraduate Diploma contains several topics which include brief physiological recaps of the different systems related to physical exercise, delve deeper into lactate mechanisms and how they affect sport activity. All this is intended to update physicians in evaluating the physical condition of athletes.

This program takes a deeper look into athlete evaluations by covering clinical and functional aspects as well as imaging tests that will establish physical condition to perform sports activities and improve physical performance. Therefore, aspects such as updated knowledge of anthropometric measurements and body composition as a baseline reference point for the athlete are included.

Other topics of great interest are also developed to rule out cardiological pathology, and other more innovative topics are included, such as the evaluation of stress tests with oxygen consumption. All this without forgetting that psychology in sport plays a relevant role along with the other topics developed in this course.

The great advantage of this Postgraduate Diploma is its 100% online teaching format. Physicians will be in charge of choosing the time and place that best suits their availability, schedules and interests. Through a study method of proven efficiency, students will be able to acquire new specific techniques in the areas of Sports Medicine.

This **Postgraduate Diploma in Sports Medicine** contains the most comprehensive and up-to-date academic program on the market. Its most notable features are:

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



*This qualification is a real updating tool to approach the topics in this specialty in a modern, objective and judicious way"*

“

*Expand your knowledge thanks to a simulated environment that will provide you with an immersive learning experience to train you for real situations, such as doping in sport”*

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

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

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

*You will be able to access multimedia content developed with the latest educational technology, which will allow you to keep up with the latest advances in sports dietetics.*

*A unique opportunity to get up to date in a high-demand professional field.*



# 02 Objectives

The main objective of this program is to instruct physicians so they can learn about the latest advances in Sports Medicine. All this will be essential to safely manage patients, and so physicians can make appropriate decisions in a preventive, therapeutic and innovative way. This Postgraduate Diploma imparts a theoretical-practical learning experience, so physicians can master the latest advances in the discipline in a practical and rigorous way.







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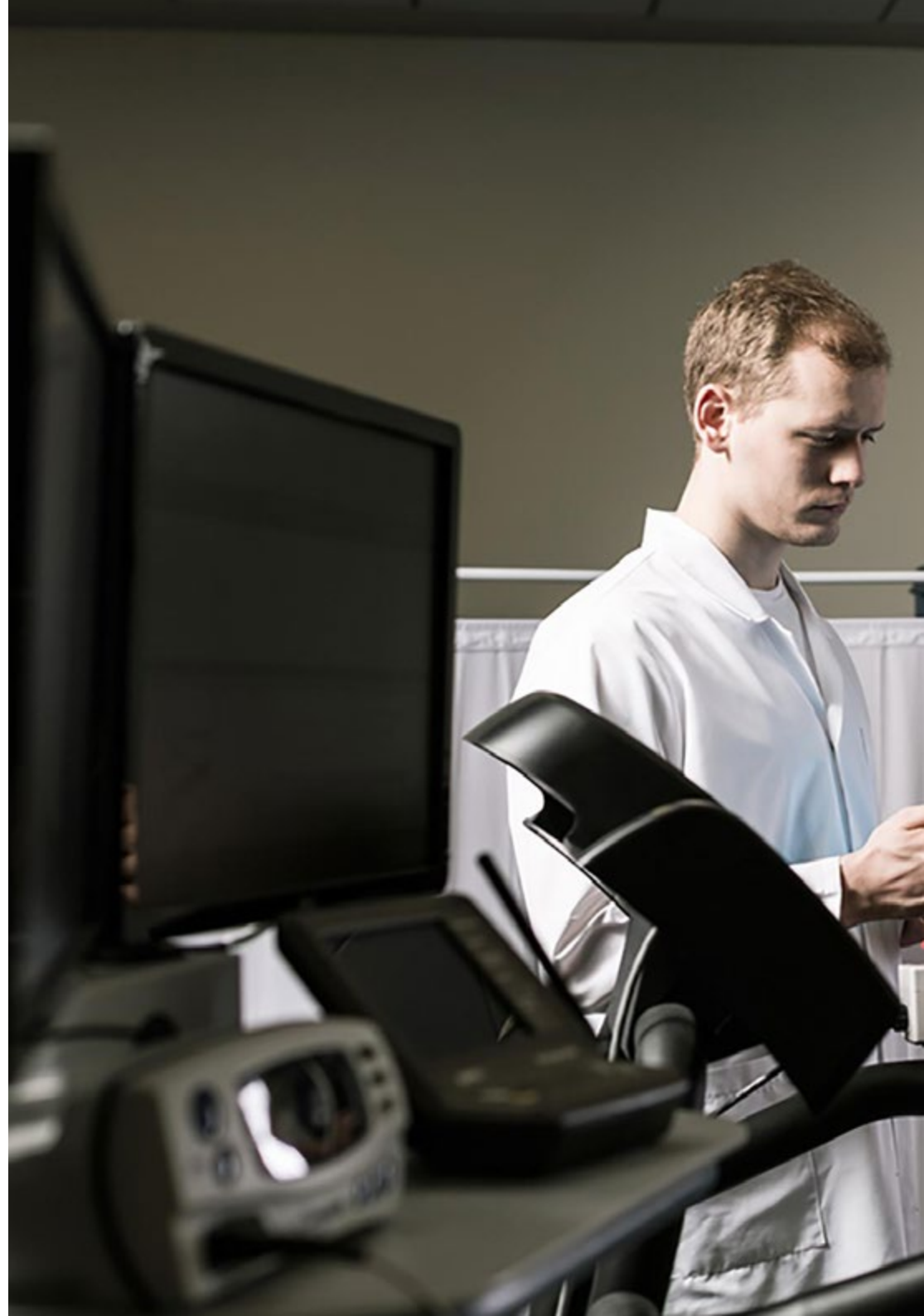
*This refresher program will strengthen your knowledge with greater confidence to continue perfecting your medical practice”*



## General Objectives

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- ◆ Study the different injuries that can occur in different sports
- ◆ Know the most frequent upper limb pathologies in athletes
- ◆ Explore the radiological findings for upper limb pathologies
- ◆ Know the most frequent lower limb injuries in athletes, their etiology and injury mechanisms
- ◆ Learn how to perform correct clinical assessments
- ◆ Know the most effective diagnostic methods and treatment options
- ◆ Know different situations in which exercise and sport have differential aspects from the general population
- ◆ Know the benefits and risks of sport in certain diseases
- ◆ Explore the different therapeutic modalities to prevent and treat sports injuries, their indications and benefits
- ◆ Acquire more specific and current knowledge in the field of sports nutrition and dietetics for specific cases of sports activity and sports nutritional supplementation
- ◆ Gain in-depth knowledge of the meaning of doping, its origins, doping substances and their consequences on health, detection techniques, legal bases of regulation and the methods to fight against it, as well as its prevention strategies





## Specific Objectives

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### Module 1. Sports Injuries

- ◆ Know how to differentiate types of sports injuries, a key aspect for an accurate diagnosis and therapeutic approach
- ◆ Determine the causes of sports injuries and their possible production mechanisms
- ◆ Manage the different phases in sports injuries
- ◆ Learn what a sports injury prevention program consists of
- ◆ Know the physiology of the different systems involved in physical exercise and their relevance in sports injuries
- ◆ Gain a deep understanding of the lactate metabolism, and the new approaches to interpreting its functions

### Module 2. Athlete Assessment

- ◆ Know the clinical and functional tests to be performed on athletes
- ◆ Explore the mechanisms of strength, speed, power and physical condition production in athletes and their performance
- ◆ Know the main imaging tests that can be performed on athletes
- ◆ Explore the main specific functional tests to rule out pathologies in athletes and to adapt the types of training

### Module 3. Doping and Nutrition in Sport

- ◆ Apply the knowledge acquired in multiple work areas such as: medical assistance, anti-doping institutions, clubs, associations, sports federations, sports medicine centers, lawyers who work with athletes and pharmacists who work with the public

03

# Course Management

Within the concept of total quality that TECH always seeks and offers, this course presents physicians with a teaching staff of the highest level, selected for their proven experience. Health professionals of recognized prestige, who belong to the field of Sports Medicine have developed a curriculum where they pour the experience of all their years of work, to update all those who take it.





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*Professionals in the field of Sports Medicine make up our complete multidisciplinary team. You have a unique opportunity to delve into this field by learning from the best”*

## International Guest Director

As President of the Department of Physical Medicine and Rehabilitation at the Mayo Clinic in Arizona, Dr. Arthur De Luigi is one of the leading exponents in the field of Sports Medicine. In fact, he is the director of this specialty at the same clinic, also dedicating himself to the areas of pain medicine, brain injury medicine and musculoskeletal ultrasound.

Internationally, he is recognized as a leading figure in Adaptive Sports Medicine, serving as the director and lead physician for both the U.S. Paralympic Alpine Ski Team and the U.S. Para-Snowboard Team. In this role, he has served as a physician on the U.S. Olympic Committee, performing his work at the Colorado Olympic Training Center.

In fact, his involvement in sports is considerable, as he has treated players in basketball, soccer, soccer, golf, baseball, field hockey and other sports. Thus, he is the medical director of the Washington Wizards and Washington Mystics teams, being part of the medical staff of Phoenix Rising FC, Arizona Coyotes, Washington Nationals and DC United. He has also served as co-medical director of the Phoenix Open and chief medical advisor for the American 7 Football League.

In addition, he has had a prominent role on concussion task forces and research groups, including the NBA's own. His experience also extends to the U.S. Army, having held the rank of major and participated as a medic in Operation Iraqi Freedom. For this, he received numerous awards, including the Bronze Star and the Superior Unit Decoration.



## Dr. De Luigi, Arthur

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- ♦ Director of Sports Medicine - Mayo Clinic Arizona
- ♦ President of the Department of Physical Medicine and Rehabilitation at the Mayo Clinic - Scottsdale/Phoenix, Arizona.
- ♦ Phoenix Rising FC Team Physician
- ♦ Arizona Coyotes Team Physician
- ♦ Medical Director at Kilogear Cut
- ♦ Special Olympics Arizona Medical Director
- ♦ Co-Medical Director, Waste Management Phoenix Open
- ♦ Chief Medical Advisor for the American 7 Football League
- ♦ Professor of Rehabilitation Medicine at Georgetown University
- ♦ Director of Electrodiagnostic, Physical Medicine and Rehabilitation at Blanchfield Army Community Hospital, Fort Campbell
- ♦ Director of Research at Fort Belvoir Community Hospital
- ♦ Director of Sports Medicine at MedStar Montgomery Medical Center
- ♦ Team Physician, Washington Mystics
- ♦ Chief Medical Officer, Washington Wizards
- ♦ Doctor of Osteopathic Medicine, Lake Erie College of Osteopathic Medicine
- ♦ U.S. Army Major
- ♦ Graduate in Biology and Chemistry from George Washington University
- ♦ Resident manager at Walter Reed Army Medical Center
- ♦ Master's Degree of Science in Health Management from Lake Erie College of Osteopathic Medicine
- ♦ Superior Unit Decoration from the U.S. Army
- ♦ Bronze Star awarded by the U.S. Army

## Professors

### Dr. Aguirre Sánchez, Irene

- ◆ Specialist in Physical Medicine and Rehabilitation at Nostra Senyora de Meritxell Hospital, Andorra
- ◆ Specialist in Physical Medicine and Rehabilitation at García Orcoyen Hospital, Andorra
- ◆ Degree in Medicine from the University of Navarra
- ◆ Specialist in Physical and Rehabilitation Medicine, Hospital Complex of Navarra
- ◆ Postgraduate Diploma in Physical Exercise Prescription at UPNA
- ◆ Postgraduate Diploma in Musculoskeletal Ultrasound from Francisco de Vitoria University







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*A unique, key and decisive training experience to boost your professional development”*

# 04

## Structure and Content

This program offers innovative content that focuses on the development of the professional skills needed by physicians in Sports Medicine. For this, TECH has structured a program designed to suit experts, which is taught in a 100% online format, so they are the ones who choose the time and place that best suits their availability. This offers a very complete and well-structured program that will keep physicians in the highest standards of quality and success.



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*A program that will bring you up to date on methods of determining dietary intake, energy expenditure and energy needs”*

## Module 1. Sports Injuries

- 1.1. Physical Activity
  - 1.1.1. Exercise
  - 1.1.2. Sports
- 1.2. Sports Injuries
  - 1.2.1. Relevance
  - 1.2.2. Etiology
  - 1.2.3. Sport Injuries Classification
- 1.3. Prevention and Sports Injury Phases
- 1.4. Sports Injury Mechanisms
- 1.5. Physiological Memory in the Musculoskeletal System
- 1.6. Physiological Memory in the Vascular System
- 1.7. Physiological Memory in the Cariorespiratory System
- 1.8. Physiological Memory in the Immune System
- 1.9. Lactate Metabolism
- 1.10. Physical Condition

## Module 2. Athlete Assessment

- 2.1. Anthropometric Measurements
  - 2.1.1. Anthropometry and Kineanthropometry
  - 2.1.2. The Anthropometric Method and Implementation
  - 2.1.3. Anthropometric Measurements Proportionality Topic: Body Composition
- 2.2. Body Composition
  - 2.2.1. Body Composition Assessment Methods
  - 2.2.2. Body Composition Fractionation
  - 2.2.3. Body Composition, Nutrition and Physical Activity
  - 2.2.4. Somatotype

- 2.3. Clinical Assessment
- 2.4. Usefulness of the Electrocardiogram and Echocardiogram in Cardiological Assessment in Healthy Athletes
- 2.5. Usefulness of Stress Tests in Cardiological Assessments of Healthy Athletes
- 2.6. Usefulness of Stress Tests with Oxygen Consumption in Athletes
- 2.7. Ultrasound in Sports Injuries
- 2.8. MRI in Sports Injuries
- 2.9. TC in Sports Injuries
- 2.10. Useful Tools in Sports Psychology

## Module 3. Doping and Nutrition in Sport

- 3.1. Basic Nutrition
  - 3.1.1. Energy Systems
  - 3.1.2. Basic Nutrient Absorption and Utilization Processes
  - 3.1.3. Regulating Body Temperature during Exercise
  - 3.1.4. Nutritional Intervention
  - 3.1.5. Communication in Nutritional Monitoring
- 3.2. Methods to Determine Dietary Intake
  - 3.2.1. Dietetic Assessments for Athletes
  - 3.2.2. Dietary Surveys
  - 3.2.3. Determining Energy Expenditure and Energy Needs
  - 3.2.4. Dietary Intake and Sufficiency Indicators
- 3.3. Sport Dietetics
  - 3.3.1. Nutrient Recommendation
  - 3.3.2. Athlete Monitoring Tests and Assessments
  - 3.3.3. Fluid and Electrolyte Replenishment



- 3.4. Sports Nutrition and Special Nutritional Needs
  - 3.4.1. Nutrition in Popular Races
  - 3.4.2. Nutrition in *Trail Running*
  - 3.4.3. Nutrition in Team Sports
  - 3.4.4. Nutrition in Combat-Based Sports
- 3.5. Nutritional Supplements in Sport
  - 3.5.1. Classification of Nutritional Ergogenic Aids
  - 3.5.2. Main Nutritional Ergogenic Aids
  - 3.5.3. Supplement Nutrition Labeling
  - 3.5.4. Decisions in Prescribing Nutritional Dietary Supplements
- 3.6. Doping
- 3.7. Doping Substances and Laboratory Diagnostics
- 3.8. Genetic Doping and Unintentional Doping
- 3.9. Rules and Regulations
- 3.10. Sport and Doping
  - 3.10.1. Doping Prevention

“*Seize the opportunity and take the step to get up-to-date on the latest developments in Sports Medicine”*

# 05

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.



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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

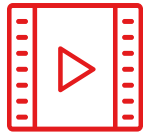
*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

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

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



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



#### Study Material

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

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



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

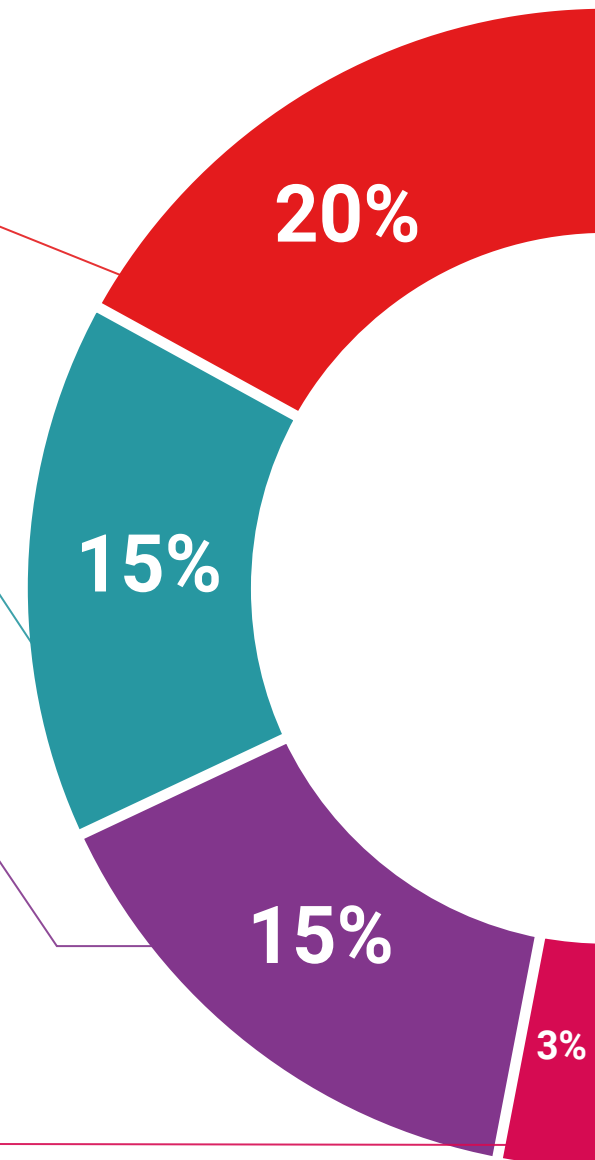
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

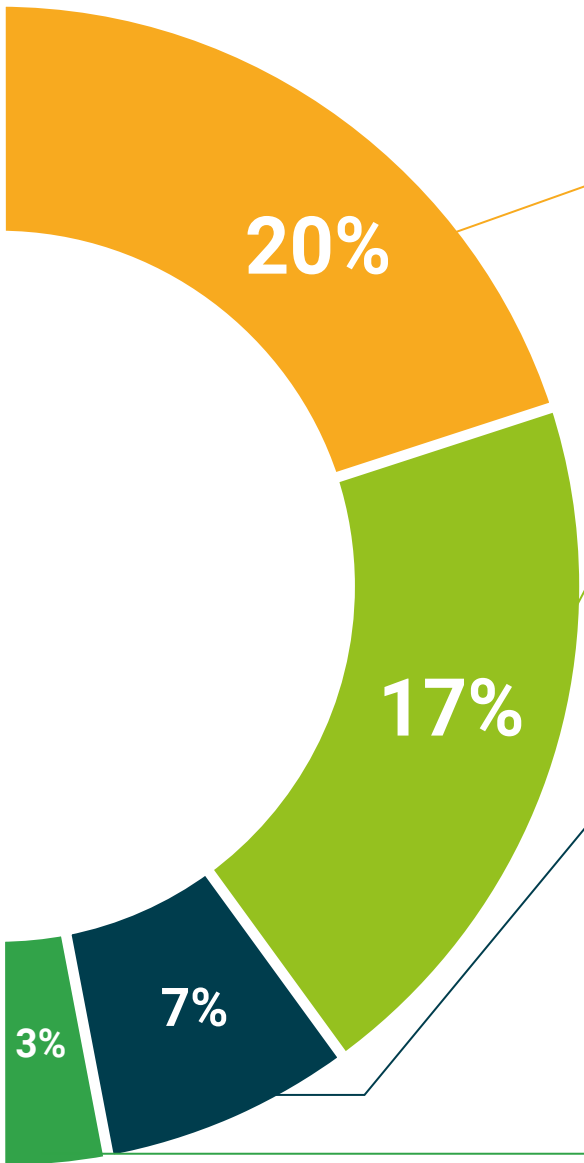
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

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





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

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



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



# 06 Certificate

The Postgraduate Diploma in Sports Medicine guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Global University.



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*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 **Postgraduate Diploma in Sports Medicine** 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: **Postgraduate Diploma in Sports Medicine**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**



\*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  
online training  
development language  
virtual classroom



## Postgraduate Diploma Sports Medicine

- » Modality: online
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- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

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university