

# Postgraduate Certificate

## Biomechanics and Injuries in Professional Volleyball

Endorsed by the NBA





## Postgraduate Certificate Biomechanics and Injuries in Professional Volleyball

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Accreditation: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/sports-science/postgraduate-certificate/biomechanics-injuries-professional-volleyball](http://www.techtute.com/us/sports-science/postgraduate-certificate/biomechanics-injuries-professional-volleyball)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

---

*p. 28*

# 01

# Introduction

Every year the medical services attend patients who practice volleyball and usually present rotator cuff tendinopathy, finger trauma, ankle sprains, patellar tendinopathy or anterior cruciate ligament involvement of the knee. Injuries that can be avoided with the training of a correct biomechanics and its analysis in each player. So, to facilitate their prevention, TECH has designed this program that delves into the most common injuries of this sport, the methods of action in such a circumstance on a playing field, as well as the different biomechanical systems of this sport and its study. All in a 100% online format, accessible 24 hours a day, 7 days a week.





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*You will be able to plan training sessions where biomechanics will be the key in the injury prevention phase of your volleyball players"*

One of the biggest risks that elite athletes suffer in their career is a long-term, recurring injury or one that affects them at a decisive moment of the season. For this reason, clubs are increasingly relying on professionals specialized in preparing training sessions based on prevention and focused on improving the player's technique through the analysis of biomechanics.

Understanding what happens in the athletes' body in each and every one of the movements they perform, both in matches and in training, are key to be able to make a proper training planning. Therefore, in order to facilitate this process, TECH has created this Postgraduate Certificate in Biomechanics and Injuries in Professional Volleyball.

This is a program consisting of an advanced syllabus, which delves into the most common injuries that occur in this sport, how to act with an injured player on the court, as well as the different biomechanical systems of volleyball technique. In this way, students will obtain vital information for the care of the physical condition of athletes and the necessary actions for their recovery until the return to competition.

An exhaustive content that acquires dynamism thanks to the numerous didactic resources offered by this program: video summaries, videos in detail, specialized readings and activities. A set of materials that you can access comfortably, from any electronic device with an Internet connection and at any time of the day.

And the fact is that, with no classroom attendance or classes with fixed schedules, the graduates have the ease of being able to self-manage their study time and take a first level qualification, compatible with their daily responsibilities. An excellent opportunity that only TECH, the largest digital university in the world, offers.

This **Postgraduate Certificate in Biomechanics and Injuries in Professional Volleyball** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of case studies presented by experts in Physical Education and Professional Volleyball
- ♦ The graphic, schematic and practical contents of the book provide technical and practical information on those disciplines that are essential for professional practice
- ♦ Practical exercises where self-assessment can be used to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*With this program you will be able to perform first aid in case of injury to a volleyball player in a match"*

“

*Thanks to the Relearning system you will avoid spending hours of study and memorization. Enroll now”*

The program includes in its teaching staff professionals of the sector who pour into this training the experience of their work, in addition to recognized specialists from reference societies and prestigious universities.

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

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Improve the attacking movements of your fullbacks thanks to this intensive program of 150 teaching hours.*

*An academic option that will contribute to your professional progression as a coach in the world of high competition volleyball.*



# 02 Objectives

The main objective of this Postgraduate Certificate is to offer the graduates 6 weeks of advanced knowledge on Biomechanics and Injuries in Professional Volleyball. A goal that will be much easier to achieve thanks to the numerous teaching resources offered by TECH and the support provided by the specialized faculty in this sport that teaches this program.





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*The case studies will allow you to integrate the most effective methodologies and techniques to analyze the biomechanics of your volleyball players”*



## General Objectives

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- Plan specific training for the full development of the volleyball player
- Structure general training for the achievement of team objectives
- Apply recovery strategies adapted to the needs of the athlete
- Assess and develop the player's capabilities to bring them to their maximum potential
- Lead the training area in a high level team
- Develop the correct physical preparation of a player





## Specific Objectives

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- ♦ Understand what happens in the athletes' bodies in each and every movement they perform
- ♦ Know the techniques for the treatment of injuries
- ♦ Delve into the strategies to be used in volleyball teams to prevent injuries
- ♦ Delve into the latest advances in biomechanics and their application in volleyball



*In this program you will learn more about the different strategies available to assess the best execution of a movement by your volleyball players"*



# 03

## Course Management

In its maxim of offering professionals a quality education, TECH has assembled an excellent teaching staff with extensive experience as a volleyball player and coach, as well as a physical trainer in different sports modalities. Their deep knowledge is reflected in the syllabus that students will have access to. Additionally, thanks to their proximity, they will be able to answer any questions you may have about the content of this program.





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*You have an excellent team specialized in  
Physical Education with extensive experience  
in sports preparation"*

## Management



### **Ms. Tabeayo Martínez, Nerea**

- ♦ Player of Voley Murcia
- ♦ Graduate in Physical Activity and Sports Sciences from the Faculty of Physical Activity and Sports Sciences at UCAM - San Antonio Catholic University of Murcia
- ♦ Volleyball Coach Level 1

## Professors

### **Ms. Campos Blanc, María Fernanda**

- ♦ Beach volleyball player in Voley Murcia
- ♦ Degree in Physical Therapy by the Autonomous University of Guadalajara
- ♦ Professional Master's Degree in Sports Physiotherapy from the UCAM- Catholic University of Murcia





# 04

## Structure and Content

The syllabus of this Postgraduate Certificate consists of an advanced syllabus on Biomechanics and Injuries in Professional Volleyball. All with a theoretical-practical approach, which will allow students to obtain all the methodologies to design an effective training plan in the prevention of injuries and their recovery. In this way, the graduates will obtain vital information for the improvement of the sports performance of their team.





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*Do you know how to treat injuries properly to minimize recovery time? Find out in this 100% online Postgraduate Certificate"*

## Module 1. Biomechanics and injuries

- 1.1. Most Common Injuries in the Volleyball
  - 1.1.1. Injuries of the Knee
  - 1.1.2. Injuries in the Shoulder
  - 1.1.3. Back Injuries
  - 1.1.4. Injuries of the Ankle
- 1.2. First Aid: How to Deal with an Injury on the Playing Field
  - 1.2.1. Identify and Assess Severity
  - 1.2.2. Provide Immediate Attention
  - 1.2.3. Offer Comfort and Safety
  - 1.2.4. Communication
- 1.3. Injury Treatment: How to Treat Injuries Properly to Minimize Recovery Time
  - 1.3.1. Process
  - 1.3.2. Highly Competitive
  - 1.3.3. Recovery Times
  - 1.3.4. Objectives
- 1.4. Injury Prevention: How to Prevent Injuries through Fitness and Proper Technique
  - 1.4.1. Physical Preparation
  - 1.4.2. Injuries Resulting from Poor Physical Preparation
  - 1.4.3. Technique and Prevention
  - 1.4.4. Injuries Resulting from Bad Technique
- 1.5. What Is Biomechanics?
  - 1.5.1. Definition
  - 1.5.2. Evolution Over Time
  - 1.5.3. Objectives
  - 1.5.4. Performance Applications





- 1.6. Biomechanical System of Volleyball Technique
  - 1.6.1. Biomechanical Fundamentals
  - 1.6.2. Mechanical Properties
  - 1.6.3. Muscle Qualities
  - 1.6.4. Muscle Functional Status
- 1.7. Characteristics of Volleyball Movements
  - 1.7.1. Objectives
  - 1.7.2. Quantitative Technical Structures
  - 1.7.3. Qualitative Technical Structures
  - 1.7.4. Evaluation of Motor Behavior
- 1.8. Phases in the Biomechanical Analysis of the Player
  - 1.8.1. Information Gathering
  - 1.8.2. Final Objective
  - 1.8.3. Principles
  - 1.8.4. Assessment Criteria
- 1.9. Biomechanical Analysis of the Attack
  - 1.9.1. Characteristics of the Attack
  - 1.9.2. Strength
  - 1.9.3. Levers and Movements Generated
  - 1.9.4. Muscle Action
  - 1.9.5. Chain and Kinematic Grade
- 1.10. Movement According to the Reference Plane
  - 1.10.1. Horizontal Plan
  - 1.10.2. Sagittal plane
  - 1.10.3. Frontal Plane
  - 1.10.4. Axes of Motion



# 05 Methodology

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

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





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

### Case Study to contextualize all content

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

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



*You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.*



*The student will learn to solve complex situations in real business environments through collaborative activities and real cases.*

### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

**“** *Our program prepares you to face new challenges in uncertain environments and achieve success in your career”*

The case method is the most widely used learning system in the best faculties in the world. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question we face in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

## Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

*In 2019, we obtained the best learning results of all online universities in the world.*

At TECH, you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.





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

With this methodology, we have trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, markets, and financial instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.



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



#### Study Material

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

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



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



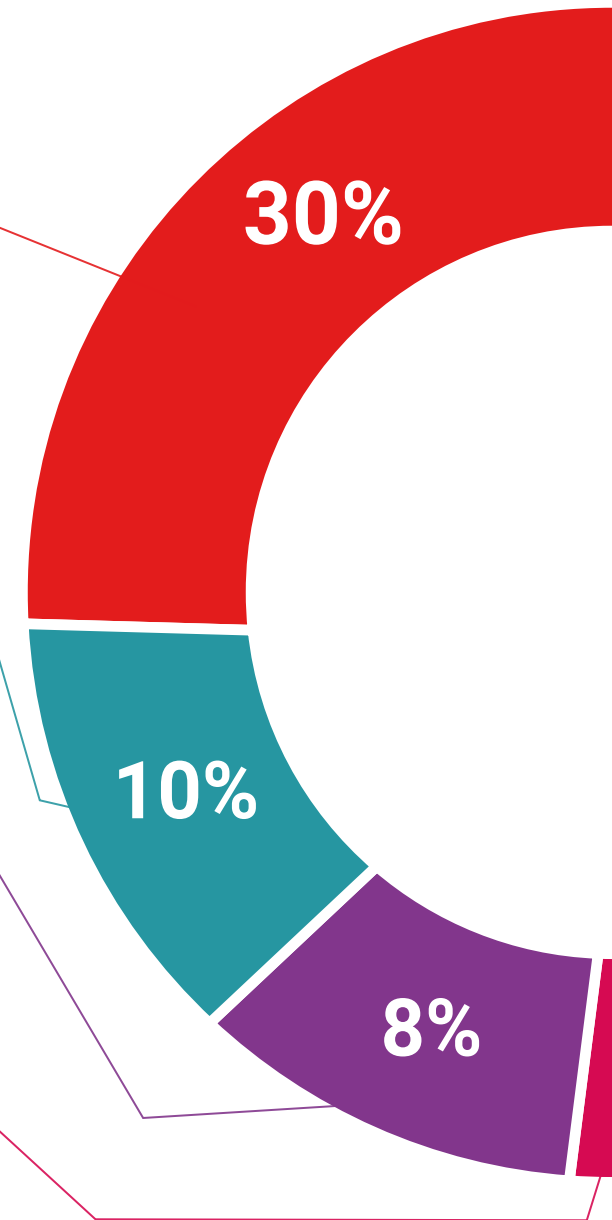
#### Practising Skills and Abilities

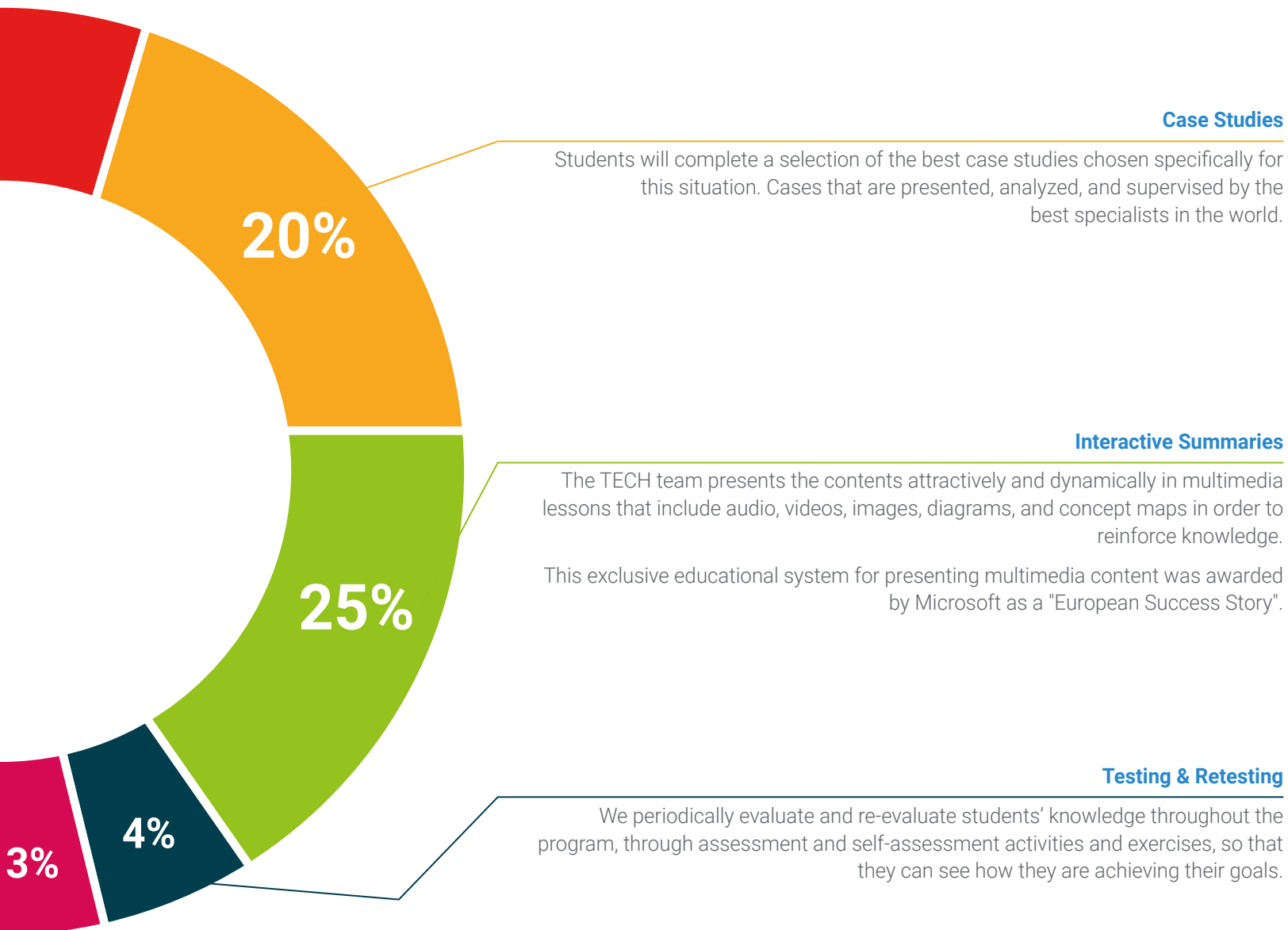
They will carry out activities to develop specific competencies and skills in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



#### Additional Reading

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





#### Case Studies

Students will complete a selection of the best case studies chosen specifically for this situation. Cases that are presented, analyzed, and supervised by the best specialists in the world.



#### Interactive Summaries

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

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



#### Testing & Retesting

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





# 06 Certificate

The Postgraduate Certificate in Biomechanics and Injuries in Professional Volleyball guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate 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 private qualification will allow you to obtain a **Postgraduate Certificate in Biomechanics and Injuries in Professional Volleyball** 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** private qualification, 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 Certificate in Biomechanics and Injuries in Professional Volleyball**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

**Endorsed by the NBA**







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