



**BARÇA
INNOVATION HUB**
Universitas

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STRENGTH TRAINING: FROM REHABILITATION TO PERFORMANCE

CERTIFICATE / 100% online / 4 months

**LEARN FROM THE BEST | ENJOY A UNIQUE EDUCATIONAL EXPERIENCE |
BECOME PART OF A GLOBAL NETWORK**

This certificate is intended for sports science and health professionals who wish to deepen their understanding of strength training. This body of knowledge is based on two sources: scientific literature and the professional experience of the teachers.

The course 'Neuromuscular Basis for Strength Training' starts with an analysis of the information on neuromuscular physiology and its relationship to strength development and muscle power in sports. This basic knowledge is continuously linked to strength training and allows for a quality pre-assessment of the needs for programming and the choice and design of tasks.

Throughout the certificate, we will deepen our understanding of the professional application of strength training in the two major work environments that are presented: the strength and conditioning coach and the return-to-play-coach. In both cases, the contents of the certificate's two main courses cover fundamental and up-to-date knowledge of these two professional profiles, with strength as their central topic. The main aspects of development for both profiles are succinctly addressed, and the work methodology for each of them is also covered.

Finally, the course 'Technology, Strength Training and Muscle Power' looks at the latest trends in strength training, some of which are still emerging, and analyses the immediate future of the development of this important feature of sports performance and injury rehabilitation.

Daniel Romero Rodriguez

EXPERT INSTRUCTOR



Strength and Conditioning coach of FC Barcelona's football first team.

Francesc Cos

EXPERT INSTRUCTOR



Former Head of Strength Training for FC Barcelona's first team football squad (2004-2016). Former Director of the Performance area of Barça Innovation Hub (2016-2018). Currently Physical Trainer of the Manchester City.

PROFESSORS

Lic. Andrés Darbyshire
Strength and Conditioning Coach in Professional Basketball.



- **DELIVERY MODE ONLINE**
- **DURATION 4 MONTHS**
- **ACADEMIC DEGREE EXECUTIVE EDUCATION**
- **DELIVERED IN ENGLISH, SPANISH, PORTUGUESE**

OBJECTIVES

Deepen your knowledge of two professional sports science profiles: the Strength and Conditioning Coach and the Return-to-Play Coach. In professional environments, strength training is the shared theme of this certificate.

AIMED AT

- Physical trainers.
- Strength trainers.
- Physiotherapists and physical therapists.
- Rehabilitators.
- Sports physicians.
- Students in fields related to the science of exercise and health through movement.

LEARN TO

- Improve critical analysis by completing a training program on the different professional roles of sports science and health.
- Improve sports performance and injury prevention through a deepened understanding of the methodology to use in strength training and muscle power programs.
- Apply the appropriate methodology to the design of the post-injury rehabilitation process in situations where strength development plays a significant role.
- Have a broad understanding of the emerging methodologies of strength training in order to explore these with the benefit of a solid scientific foundation.

COURSES

The Certificate is composed of four one-month courses. This Certificate is completed sequentially (the course is enabled and each course is completed over a month).

COURSE 1: Neuromuscular basis for strength training

- MODULE 1: Characteristics of the musculoskeletal system.**
- MODULE 2: Muscle action and its relationship to sports.**
- MODULE 3: Systemic changes in detraining and immobilization.**
- MODULE 4: Assessment of muscular properties in relation to sport.**

COURSE 2: Strength training methodology: its application in the improvement of sports performance and post-injury rehabilitation for competition.

- MODULE 1: Contextualization: how can we adapt strength training to team sports?**
- MODULE 2: Strength workload methodology in situation sports.**
- MODULE 3: Integrating strength workload into planning and programming of situation sports.**
- MODULE 4: Strength in the design of sports specific tasks. Examples based on football.**

COURSE 3: Strength and muscle power as a key feature of rehabilitation from sports injuries.

- MODULE 1: Analysis of injury in sports: injury mechanisms and associated risk factors.**
- MODULE 2: Sports injuries and their relationship with the quality of strength.**
- MODULE 3: Strength manifestations and muscle power in the post-injury rehabilitation process.**
- MODULE 4: New paradigms in strength training: muscle building through vascular occlusion.**

COURSE 4: Technology, strength training and muscle power

- MODULE 1: Technology, equipment and general strength training.**
- MODULE 2: Technology, equipment and specific strength training in relation to sports.**
- MODULE 3: Technology in strength and muscle power evaluation.**
- MODULE 4: Interactive technology and strength training.**

EXPERIENCE

All your learning experience will take place in an online platform where you will find all the resources you need to study:

LECTURES

which address the main topics.

VIDEOS

that deepen some subjects of the readings.

ACTIVITIES

to apply the content addressed in each module.

RUBRICS

that will evaluate you in each module.

ONLINE EXPERT

In every course, you will have the support and virtual follow-up of a subject-matter expert. This online expert will perform interventions throughout the different modules to ensure your learning, as well as the interaction with the rest of your peers.

In addition, he will be available in the forum and by internal messaging so that you can appeal to him as many times as you need.

FORUMS

where you can interact with your colleagues.

SELF-ASSESSMENTS

which will help you measure your learning progress.



BENEFITS

- **World-class content, designed by experts and sports-industry oriented for an immediate impact.**
- **Round-the-clock access to study material, wherever you want and from any device.**
- **Custom feedback for every individual and teamwork activity.**
- **Spaces of discussion and interaction with industry professionals from all over the world.**
- **Certificate of participation for each course, issued by Barça Innovation Hub - Universitas. If you pass each of the courses that make up the program, and complete and pass the comprehensive final exam, you will also receive a verified certificate of completion for the entire program, with confirmation of identity, issued by Barça Innovation Hub - Universitas.**



BARÇA INNOVATION HUB Universitas

**Creating a new generation of
sports professionals**