

## NEUROSCIENCE AND TRAINING

(Lucian Stan, 4months Jul-Oct2020, Barca Innovation Hub Universitas)

<https://barcainnovationhub.com/product/certificate-neurobiology-sports-performance/>

DISCLAIMER: "Certificate in Neurobiology and Sports Performance" is the new name of the former "Certificate in Neuroscience and Training".

The screenshot shows the website interface for the 'Neuroscience and Training' certificate. The header includes the 'BARÇA INNOVATION HUB' logo, navigation links for 'CONFERENCES' and 'PROGRAMS', and user information for 'LUCIAN'. The main content area features a table of course details and a 'BUY NOW' button.

START DATE	LEVEL	DELIVERY MODE
25/07/2020	Introductory	Online-based
DURATION	AVERAGE DEDICATION	DELIVERED IN
4 months	6/8 weekly hours	English

**EXPERT ADVISORS**

**Francesc Cos**  
*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 Director of Performance of the New York City (MSL).*

**PROFESSORS:**

**Lic. Mario Di Santo**  
*Professor of Physical Education. Health and neurobiology of control and motor learning.*

**CERTIFICATE**

BARÇA INNOVATION HUB Universitas

The study of human movement from a neuromechanical perspective has not been developed or approached in a systematic way in structured educational programs — neither in the context of physical education nor physiotherapy. Physical education in schools and training systems are not managing to satisfy the demands of motor literacy. This creates the need to study how human movement is related to the nervous system and its different functions.

In this Certificate, we provide you with the tools and knowledge you need to develop athletes with greater motor awareness and better decision-making abilities. In order to do this, we cover all the aspects that involve movement, from perceiving stimulus, to processing information, to finally making a decision and executing it. Without a doubt, this structured development of this subject matter will constitute a milestone in our pursuit of such an ambitious goal.

## COURSES' SYLLABUS

### **I. Central Processing of Voluntary Movement** (Feb2020)

MODULE 1: The Logic of Motor Functions and Decision-Making

MODULE 2: Decision Training

MODULE 3: Neuromotor Programming

MODULE 4: Integrative Reading

### **II. Efferent Organization of Human Movement** (Mar2020)

MODULE 1: Motor Cortex and Cortical Spinal Tract

MODULE 2: Role of the Cerebellum and Basal Ganglia

MODULE 3: Feedback and Motor Adjustment

MODULE 4: Integrative Reading

### **III. Difficulty and Environment in Human Motor Function** (Apr2020)

MODULE 1: Motor Faults

MODULE 2: Special Teaching Methods for Correcting Faults

MODULE 3: Transference and Interference

MODULE 4: Integrative Reading

### **IV. Afferent Organization of Human Movement** (May2020)

MODULE 1: Sensory Systems

MODULE 2: Motor Perception and Observation

MODULE 3: Ideomotor Representation

MODULE 4: Integrative Reading



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Barça Innovation Hub, FC Barcelona's platform for knowledge and innovation, certifies that

**Lucian Stan**

approved the **Certificate in NEUROSCIENCE AND TRAINING** (online)

with a duration of 4 months.

June 2020

Javier Sobrino  
Strategic Planning and  
Innovation Director

Verified Certificate  
of Approval

The identity of this person and the  
academic integrity of the competency  
acquisition process have been validated.







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This is to certify that  
**Lucian Stan**  
successfully participated in the course **CENTRAL PROCESSING OF VOLUNTARY MOVEMENT** (online)  
facilitated by **Barça Innovation Hub – Universitas**, FC Barcelona's platform for knowledge and innovation.

February 2020

Javier Sobrino  
Strategic Planning and  
Innovation Director







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This is to certify that  
**Lucian Stan**  
successfully participated in the course **EFFERENT ORGANIZATION OF HUMAN MOVEMENT** (online)  
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March 2020

Javier Sobrino  
Strategic Planning and  
Innovation Director







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This is to certify that  
**Lucian Stan**  
successfully participated in the course **DIFFICULTY AND ENVIRONMENT IN HUMAN MOTOR FUNCTION** (online)  
facilitated by **Barça Innovation Hub – Universitas**, FC Barcelona's platform for knowledge and innovation.

April 2020



Javier Sobrino  
Strategic Planning and  
Innovation Director







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This is to certify that  
**Lucian Stan**  
successfully participated in the course **AFFERENT ORGANIZATION OF HUMAN MOVEMENT** (online)  
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May 2020



Javier Sobrino  
Strategic Planning and  
Innovation Director

