

Syllabus: Central Processing of Voluntary Movement



SYLLABUS

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- ≡ Skills
- ≡ Bibliography
- ≡ Criteria for participation and approval

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- ≡ Module 2. Decision Training
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Objectives

By establishing objectives, we give ourselves a clear idea of what we want to achieve once the teaching and learning process of this course has finished. But our aims are even more specific: we also want to establish what you will need to accomplish in order for this new knowledge to contribute to your educational goals.

To achieve these objectives, you must complete the entire process laid out in the different stages of the course.

Thus, if you work in the way suggested, you will be well-positioned to meet the following objectives:

General objective

Learn about the participation of the nervous system in voluntary human movement

Specific objectives

- 1 Learn about the logic and physiology of decision-making as related to movement.
- 2 Learn how we can use training to influence decision-making in sports.
- 3 Get to know the basics of training for decision-making.

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Skills

The skills we hope you will develop throughout this course are:

General skills

- 1** **Group and collaborative work:** the ability to work with colleagues in order to accomplish shared goals and to achieve the synergy typical of a high performance group.
- 2** **The capacity of analysis/reflection:** the capacity to methodically examine the different aspects of a certain reality or situation and to carry out an assessment of that situation.
- 3** **Creativity and innovative, knowledge-based solutions:** the capacity to find alternative solutions to existing problems based on formal knowledge.

Specific skills

Be able to explain how the central nervous system influences human movement as well as how we can shape the ability to make decisions

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Criteria for participation and approval

Participation criteria

During the month of course, the student is expected to:

- Browse the multimedia contents of each of the modules that make up the course.
- Solve the evaluations assigned in each module.
- Carry out the proposed activities, whether group or individual.
- Take the final exam.

Approval criteria

For the approval of the course, the student is required to complete the (4) proposed activities in the course and pass the final exam. The student must obtain a final score of 70% or more. This grade will be the average between the activities and the final exam.

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Module 1. The Logic of Motor Functions and Decision-Making

Unit 1.1 Thinking about Movement

1.1.1 Introductory Concepts

1.1.2 Representing and thinking. Differences

1.1.3 The Three Most Common Dimensions of Decision-Making

1.1.4 The Influence of Antonio Damasio

Unit 1.2 The Neurobiology of Decisions

1.2.1 Key Cerebral Regions and Their Interrelations

1.2.2 Stages of Decision-Making and Their Neural Correlates

1.2.3 Decisions and Emotional States

1.2.4 Three System Dimensions According to Decisions

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Module 2. Decision Training

Unit 2.1 Education Through Movement

2.1.1 Introduction

2.1.2 Motor Tasks with High Decisional Involvement

2.1.3 Motor Tasks with Low Decisional Involvement

2.1.4 Stages of Learning and Decision-Making

Unit 2.2 Variables and Decision

2.2.1 Quantity

2.2.2 Certainty

2.2.3 Risk

2.2.4 Time

CONTINUE

Module 3. Neuromotor Programming

Unit 3.1 Programming

3.1.1 Introduction and Historical Background

3.1.2 The Concept of Programming

3.1.3 Stage Plays and Orchestras as Similes for Neuromotor Programming

3.1.4 The Neural Correlates of Motor Programming

Unit 3.2 Engrams

3.2.1 What is an Engram?

3.2.2 Components of the Engram

3.2.3 Uses of the Engrammic Copy

3.2.4 What Puts an Engram in Motion? Voluntary Movement.

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Module 4. Integrative reading

Integrative reading

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