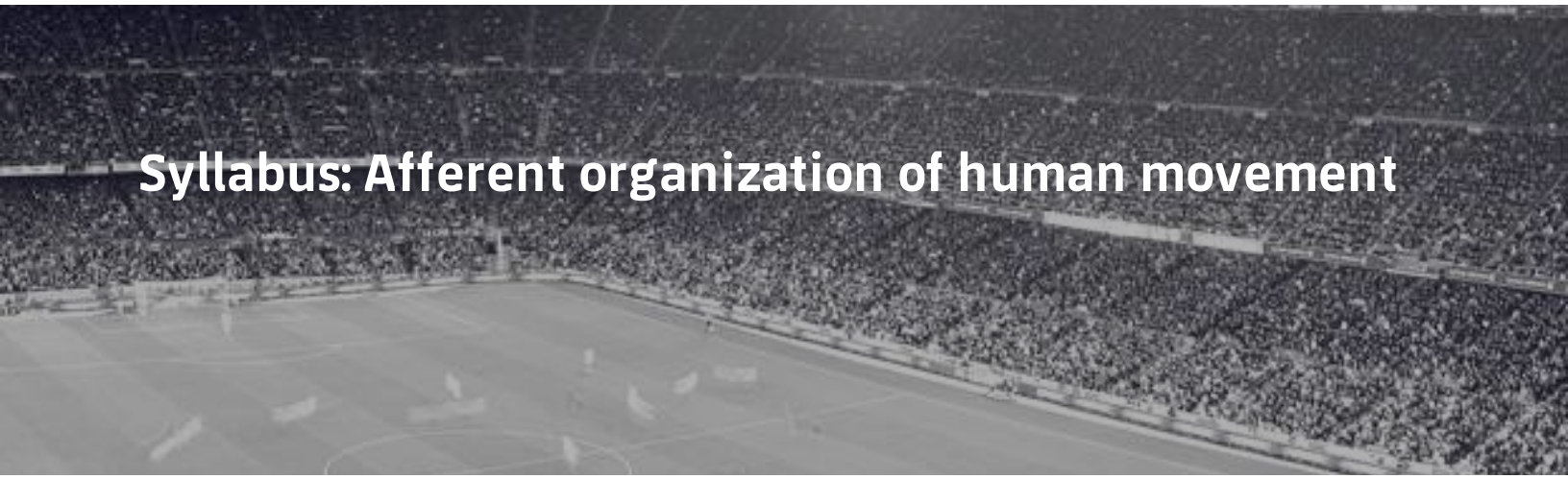

Syllabus: Afferent organization of human movement

BARÇA INNOVATION HUB Universitas

SYLLABUS

TEMARIO

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 sensory perception for human movement.

Specific objectives

1. Become familiar with the human body's sensory systems, as well as how they function in the production of movement.
2. Know how perception can be influenced via sports training.

3 Learn about ideomotor representation and its application in sports and movement.

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 skill

Ability to identify the areas that participate in sensorimotor perception as well as how they influence it.

Bibliography

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Rigal, R. (1979). Motricidad humana [Human motor skill]. Pila Teleña, Madrid.

Sánchez Bañuelos, F. (1990). Didáctica de la educación física y el deporte [Teaching physical education and sports]. Gymnos, Madrid.

Tamorri, S. (2009) Neurociencias y deporte [Neuroscience and sports]. Paidotribo, Barcelona.

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.

MODULE 1: Sensory Systems

Unit 1: Sensations and Human Movement

1.1.1 Definitions and Components of Sensory Systems

1.1.2 Sensory Physiology

1.1.3 The Itinerary of Information Processing in Sensory Systems.

1.1.4 The Importance of Afferent Processes for the Correct Neuromotor Programming, Execution and Control of Movements

Unit 2: Sensory Modalities

1.2.1 Proprioception

1.2.2 Tactile and Haptic Modalities

1.2.3 Vision

1.2.4 Vestibular Hearing

MODULE 2: Motor Perception and Observation

Unit 1: Motor Perception

2.1.1 Perception and its Theories

2.1.2 The Problem of Integration

2.1.3 Hypothesis and Neural Correlates

2.1.4 Observation and Perception in Sports

Unit 2: Didactic Proposals for the Training of Sensory-Perceptual Functions

2.2.1 Tactile and Haptic Proprioceptive Training

2.2.2 Visual-Motor Training

2.2.3 Vestibular Training

2.2.4 Integrative Aspects of Perceptual Training

MODULE 3: Ideomotor Representation

Unit 1: Motor Imagery

3.1.1 The Act of Imagining Movements and Its Neural Consequences

3.1.2 Martin's Ideomotor Reaction and the Carpenter Effect

3.1.3 Neural Correlates, Activation of the Premotor Cortex and Impacts in the Cerebellum and Basal Ganglia

3.1.4 Peripheral Activations and Impact on Proprioceptors

Unit 2: Applications for Sports and Therapy

3.2.1 Special Teaching Methods and Specific Models for Formal Sessions

3.2.2 Ideomotor Representational Times

3.2.3 Mental Fatigue: Conditions, Risks, and Analysis of Experiences

3.2.4 Current Research Status

MODULE 4: Integrative reading

Integrative reading