



Syllabus. Force assessment and an introduction to kinematics



SYLLABUS

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TOPICS

- ☰ Module 1. Fundamentals of force platform kinetics and their context in sports and clinical settings
- ☰ Module 2. The CMJ (countermovement jump) as a core test
- ☰ Module 3. Kinematics introduction

Justification

Technology has been part of sports science practitioner's daily basis for a while now. However, most of the time the focus is in the devices per se instead of in the way that such devices can optimise training or rehabilitation processes.

This is why we have decided to create this program where the focus will be in kinematics and force in sports performance, involving healthy and injured athletes' management. Thus, force plates (technology) become a key asset, pursuing answers to many questions that constantly appear during such processes.

In this program, we will give you the tools to master decision-making based on biomechanics and sports performance.

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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

To learn to understand force plate assessment results in order to use the data in training or rehabilitation processes management.

Specific objectives

- 1 Learning the basics for kinematics fundamentals and force assessment.
- 2 Understanding kinematics for injury rehabilitation.
- 3 Developing a toolbox that allows the student to assess in performance, injury and rehabilitation.

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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

Kinematics understanding for force assessment.

Management of force assessment as a key asset in rehabilitation.

Capacity of adapting injury and rehabilitation framework to each specific case.

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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. Fundamentals of force platform kinetics and their context in sports and clinical settings

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Module 2. The CMJ (countermovement jump) as a core test

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Module 3. Kinematics introduction

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Module 4. Profiling and monitoring for the overhead athlete
