UCL Université catholique de Louvain

LEDPH1028

2015-2016

Sports biomechanics

3.0 credits	30.0 h	1q

Teacher(s) :	De Jaeger Dominique ; Willems Patrick (coordinator) ;
Language :	Français
Place of the course	Louvain-la-Neuve
Prerequisites :	*The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Main themes :	The main themes to achieve these objectives are : - biomechanics of the muscle, - electromyography and kinesiology, - strength of biological material like bones, tendons and ligaments
Aims :	The aim of this course is to apply the principles of biomechanics in physiotherapy. Using these principles, the student will be able to identify the mechanical causes of several pathologies of the locomotory system, et de justify therapeutic design from a biomechanical point of view. *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Content :	Part 1: Joint forces and muscular moments during an athletic movement - Estimation anthropometric parameters during a athletic movement - Measure of kinematic and kinetic variables - Estimation joint forces and muscular moments Part 2: Energy, work et muscular power during an athletic movement - The motor function and the breaking function of the muscle - Classification of the exercises - Transfer and transformation of energy - Utilization of the elastic properties of biological structures Part 3: The mechanisms of terrestrial locomotion - The mechanics of walking and running - The mechanics of speed skating - The mechanics of bicycling - Efficiency of terrestrial locomotion Part 4: The mechanisms of terrestrial locomotion - The mechanics of swimming (breast stroke, crawl, butterfly) - The mechanics of rowing - Efficiency of aquatic locomotion Part 5: Analysis of athletic movements - The rotation movements in gymnastic - The mechanics of sprint running - The mechanics of throwing in athletics'
Other infos :	Pre-requisite Mechanics, biomechanics, Fundamentals of locomotory physiotherapy Evaluation Oral or written exam Support Books or syllabus Supervision Teachers Others
Faculty or entity in charge:	FSM

Programmes / formations proposant cette unité d'enseignement (UE)

Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Bachelor in Motor skills : General	EDPH1BA	3	LIEPR1002 **and** LIEPR1003 **and** LIEPR1011 **and** LIEPR1012	