

3.00 credits	30.0 h	Q1
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Teacher(s)	De Jaeger Dominique ;Willems Patrick (coordinator) ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	<i>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.</i>
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
Learning outcomes	<p>At the end of this learning unit, the student is able to :</p> <p>1 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.</p>
Content	<p>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</p> <p>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</p> <p>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</p> <p>Part 4: The mechanisms of terrestrial locomotion - The mechanics of swimming (breast stroke, crawl, butterfly) - The mechanics of rowing - Efficiency of aquatic locomotion</p> <p>Part 5: Analysis of athletic movements - The rotation movements in gymnastic - The mechanics of sprint running - The mechanics of throwing in athletics'</p>
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 containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Motor skills : General	EDPH1BA	3	LIEPR1002 AND LIEPR1003 AND LIEPR1011 AND LIEPR1012	