

<b>ID</b>	3252
<b>Curricular Unit</b>	Kinesiology
<b>Regent</b>	Pedro Luís Camecelha de Pezarat Correia
<b>Learning Outcomes</b>	To develop the methodology for the analysis and interpretation of human movement based on anatomophysiological, biomechanical and motor control fundamentals.
<b>Syllabus</b>	<p>Muscle mechanical model.</p> <p>Neuromuscular coordination: intra and intermuscular coordination mechanisms.</p> <p>Functional anatomy.</p> <p>Organization and control of human movement: reflex mechanisms; brain mechanisms; equilibrium regulation.</p> <p>The effects of exercise on the locomotor system: changes on bones and joints; neuromuscular changes.</p> <p>Research methods in Kinesiology.</p> <p>Analysis of muscular participation in human movement: muscular participation in different types of human movement; muscular patterns in sport movements.</p>
<b>Evaluation</b>	<p>The first part (1st half) of the discipline is based in oral and power point presentations, group work and exercises solving. The bibliographic support can be found in Pezarat-Correia, P. (2012). <i>Aparelho Locomotor, Volume II: Coordenação Neuromuscular e Adaptações à Atividade Física</i>. Lisboa: Edições FMH. In the second part of the discipline the student is invited to determine by a deductive method of analysis the neuromuscular patterns in different motor tasks and sport skills (included in Pezarat-Correia et al., 2011. <i>Aparelho Locomotor: Exercícios e Estudos Práticos</i>. Lisboa: Edições FMH). This work is performed in groups of 4 students. The 4 final lessons, that are used to make a final synthesis, are again based in oral and power point presentations followed by general discussion. The evaluation is composed by two written tests.</p>
<b>Bibliography</b>	<p>Pezarat-Correia, P. (2012). <i>Aparelho Locomotor, Volume II: Coordenação Neuromuscular e Adaptações à Atividade Física</i>. Lisboa: Edições FMH.</p> <p>Pedro Pezarat Correia, Margarida Espanha, Sandro Freitas, Raúl Oliveira, Augusto Pascoal (2011). <i>Aparelho Locomotor: Exercícios e Estudos Práticos</i>. Lisboa: Edições FMH.</p> <p>Muscolino, J. (2006). <i>Kinesiology: The skeletal system and muscle function</i>. St. Louis: Mosby Elsevier.</p> <p>Enoka, R. (2002). <i>Neuromechanics of Human Movement</i>. Human Kinetics: Champaign. IL.</p> <p>McComas, A. (1996). <i>Skeletal muscle: Form and function</i>. Champaign: Human Kinetics.</p> <p>Gardiner, P. (2001). <i>Neuromuscular aspects of physical activity</i>. Champaign, IL.: Human Kinetics.</p>