ID	2468
Curricular Unit	Kinesiology
Regent	Pedro Luís Camecelha de Pezarat Correia
Learning Outcomes	To develop the methodology for the analysis and interpretation of human movement based on anatomophysiological, biomechanical and motor control fundamentals.
Syllabus	Muscle mechanical model. Neuromuscular coordination: intra and intermuscular coordination mechanisms. Functional anatomy. Organization and control of human movement: reflex mechanisms; brain mechanisms; equilibrium regulation. The effects of exercise on the locomotor system: changes on bones and joints; neuromuscular changes. Research methods in Kinesiology. Analysis of muscular participation in human movement: muscular participation in different types of human movement; muscular patterns in sport movements.
Evaluation	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). Aparelho Locomotor, Volume II: Coordenação Neuromuscular e Adaptações à Atividade Física. 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. Aparelho Locomotor: Exercícios e Estudos Práticos. Lisboa: Edições FMH). This work is performed in groups of 4 students. The 4 last 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.

Bibliography	Pezarat-Correia, P. (2012). Aparelho Locomotor, Volume II: Coordenação Neuromuscular e Adaptações à Atividade Física. Lisboa: Edições FMH. Pedro Pezarat Correia, Margarida Espanha, Sandro Freitas, Raul Oliveira, Augusto Pascoal (2011). Aparelho Locomotor: Exercícios e Estudos Práticos. Lisboa: Edições FMH. Muscolino, J. (2006). Kinesiology: The skeletal system and muscle function. St. Louis: Mosby Elsevier. Enoka, R. (2002). Neuromechanics of Human Movement. Human Kinetics: Champaign. IL. McComas, A. (1996). Skeletal muscle: Form and function. Champaign: Human Kinetics. Gardiner, P. (2001). Neuromuscular aspects of physical activity. Champaign, Il.: Human Kinetics.