



UNIVERSIDADE FEDERAL DE PERNAMBUCO
CENTRO DE CIÊNCIAS DA SAÚDE
GRADUATE PROGRAM IN PHYSIOTHERAPY



Code	PGFT926		
Name of the subject	Exercise Physiology and Biochemical and Morphofunctional Adaptations to Physical Training in Diabetes		
Course load	60 h	(-) Mandatory	(x) Optional
Subject Program			
<p>The subject focuses on the acute and chronic biochemical, morphological and functional adaptations of cardiovascular systems and of locomotive apparatus structures when subjected to physical exercise in healthy and diseased subjects. The repercussions of the use of physical exercise on the morphofunctional and biomechanical pattern of these structures specifically in diabetes will also be addressed. Methodology of physiological evaluation in human and animal models of adaptations resulting from strength and endurance training under physiological conditions and in diabetes.</p>			
References			
<p>GARRETT JR., W.E.; KIRKENDALL, D.T. (Org.). A ciência do exercício e dos esportes. Porto Alegre: Artmed, 2003. POWERS, Scott K.; HOWLEY Edward T. Fisiologia do Exercício: teoria e aplicação ao condicionamento e ao desempenho. 8ªed. Manole, 2014. Brumitt J, Cuddeford T. Current Concepts Of Muscle And Tendon Adaptation To Strength And Conditioning. Int J Sports Phys Ther. 2015 Nov;10(6):748-59. Olfert IM, Baum O, Hellsten Y, Egginton S. Advances and challenges in skeletal muscle angiogenesis. Am J Physiol Heart Circ Physiol. 2016 Feb 1;310(3):H326-36. Qi Z, Zhai X, Ding S. How to explain exercise-induced phenotype from molecular data: rethink and reconstruction based on AMPK and mTOR signaling. Springerplus. 2013 Dec 28;2:693. Bezerra, MA et al. Previous physical exercise slow down the complications from experimental diabetes in the calcaneal tendon. MLTJ Muscles, Ligaments and Tendons Journal, 2016, v. 6, p. 97-103. Brito-Casillas, Y; Melián, C; Ana María Wägner, AM. Study of the pathogenesis and treatment of diabetes mellitus through animal models. Endocrinol Nutr. 2016;63(7):345---353 Mendes, R; et al. Exercise prescription for patients with type 2 diabetes—a synthesis of international recommendations: narrative review. Brist. J. S., 23, 2016 , 1-4. Martínez, SB, et al La paradoja diabética: densidad mineral ósea y fractura en la diabetes tipo 2. Endocrinol Nutr. 2016;63(9):495-501 Oliveira, RR. et al; Mechanical Properties of Achilles Tendon in Rats Induced to Experimental Diabetes. Annals of Biomedical Engineering, v. 39, n. 5, p. 1528-34, 2011. Oliveira, RR et al., Aerobic physical training restores biomechanical properties of Achilles tendon in rats chemically induced to diabetes mellitus. Journal of Diabetes and Its Complications, doi:10.1016/j.jdiacomp.2012.03.017, 2012. Reid, RD. et al. Effects of aerobic exercise, resistance exercise or both, on patient-reported health status and well-being in type 2 diabetes mellitus: a randomised trial. Diabetologia, v. 53, p. 632-640, 2010. Publicações científicas</p>			

atualizadas na área da disciplina, por exemplo: artigo e/ou matéria de revista científica, periódicos especializados, biblioteca on-line e acervo virtual: Periódicos Capes, SciELO, entre outros.