KINE 4706 - Comparative and Evolutionary Biomechanics

This course will examine how anatomy and biomechanics influence human physical performance and injury by examining evolutionary development and comparative musculoskeletal anatomy across species and humans. Biomechanical principles will be used to examine why humans evolved to their current anatomical form, how we compare to other species – from our hairy cousin the chimpanzee to our ancient ancestor Australopithecus – how we compare to each other, interact with our built-environment, and how this influences our modern physical and musculoskeletal capabilities, limitations, disorders and injuries.

Students will regularly engage in discussions on the comparative anatomy and biomechanics of different regions of the body, present on a comparative journal article of their choosing, and complete a term paper on a self-selected topic exploring the effect of evolutionary and comparative anatomy on modern biomechanical performance or musculoskeletal injury/disease risk for a specific anatomical region. From this course, students will gain a deeper understanding and appreciation for the role anatomical form and variation has on musculoskeletal biomechanical function.

Pre-Requisites: KINE 2320, KINE 2465