

# Origins and Principles of Biomechanics

## MSc Biomechanics Module

### Key facts:

#### Mode:

Distance Learning supported by Blackboard with 6 contact days at The Science Centre, Stoke-on-Trent

#### Course Begins:

November, January and February

#### Credits:

30 credits

#### Entry requirements:

You need to be involved in musculoskeletal practice as an Allied Health professional registered with the Health and Care Professions Council (HCPC), Sports Therapist or Biomechanist who support Allied Health professionals or a Medical professional.

### Module Outline:

This module will examine the biomechanical concepts of the body, particularly the lower limb and link these to the laws of physics, and of motion. Studying this module will enable you to define and explain the relationship of

kinematics to anatomy and physiology of the human musculo-skeletal system. You will study the relationship of anatomy to mechanics and explore the differing perspectives of the descriptive anatomist to that of the clinical biomechanist. There is opportunity to explore the concepts of joint axes and their fluidity of position in space and time during gait and relate these concepts to those of joint neutral and joint congruency positions and core stability.

The content of the module will also explore the relationship between developmental processes and observed clinical pathology, since many biomechanical abnormalities; originate during embryological and/or post natal development. The clinical course of biomechanical based disorders is commonly influenced by various environment and activity related factors. After studying this module you will be expected to identify and appropriately adjust those factors so as to minimise their adverse impact on treatment outcomes. In this module you will therefore explore the embryological and developmental origins of various structural deformities.



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