Queen's University
School of Kinesiology and Health Studies

Course Name: **KNPE 254/3.0** Biomechanical Analysis of Human Movement	**Course Instructors:** Dr. Gerome Manson	**Contact Hours:** Lectures: 2 x 1.5 hr / 12 weeks Tutorials: 1 x 1.5 hr / 12 weeks
		Prerequisites: KNPE 153/3.0 Level 2 or above in a KINE or PHED plan. **Recommended:** ANAT 315/3.0
		Exclusion: KNPE 353/3.0

Course Description:

Students will use biomechanical principles that describe how forces cause movement, from whole-body motions to tissue level processes, in order to solve problems in human movement. Biomechanical techniques and tools will be discussed, with a focus on applications in clinical movement disorders and performance in sport & exercise.

Course Texts:

TBD

Course Objectives:

- Understand the fundamental mechanical principles and theories that govern human movement.
- Use mechanical principles to interpret and solve biomechanical problems.
- Learn how to analyze, summarize and report biomechanical data
- Understand how biomechanics can be applied to other disciplines

Course Evaluation:

TBD

Course Outline

Linear Kinematics and Projectile Motion	Muscle, Tissue Mechanics, and Neuromuscular Function
Linear Kinetics	Integrated Biomechanics (Work Physiology)
Angular Kinematics and Kinetics	Intro Dynamics and Biomechanical Applications

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