Queen's University
School of Kinesiology and Health Studies

Course Name: **KNPE 454/3.0** Clinical Biomechanics	**Course Instructor:** Dr. Pat Costigan	**Contact Hours:** Lectures: 1 x 3 hrs/wk x 12 weeks
		Prerequisite: KNPE 254/3.0 or KNPE 353/3.0 Level 3 or above in a KINE or PHED plan. Note on prerequisite: Students admitted to a KINE or PHED plan in 2014-15 or earlier may appeal to the SKHS UG Office to be allowed the following. **KNPE 253/3.0**, KNPE 254/3.0, KNPE 353/3.0 or **KNPE 354/3.0**
		Exclusion:

Course Description: Through this course students will learn how biomechanical tools and processes are used to evaluate motion and how the relevant outcome measures are used to characterize movement deficiencies and evaluate progress during the rehabilitation process.	**Course Texts:** None **Course Notes**: Will be available on onQ.

Intended Student Learning Outcomes: • To expose the student to the application of biomechanics in several areas. • To understand how performance is evaluated in these areas. • To understand the meaning of the outcomes measures used in evaluation. • To understand and critique the biomechanics literature in these areas.	**Course Evaluation:** Motion tracking 5% Force measurement 5% Electromyography 5% Sensors 5% Link segment modeling 5% In-class test on the topics 10% Informal presentation of population/measures 0% Presentation of selected problem 5% Literature presentation 10% Presentation of Research Proposal 10% Written submission of Research Proposal 20% Take Home exam 20%

Course Outline

Motion Tracking	
Force Measurement	
Sensors	
Electromyography	

Link-Segment Analysis	
Presentation of Selected Problem	
Literature/Research Question Presentation	
Final research Proposal	
Take home exam	

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