Queen's University
School of Kinesiology and Health Studies

Course Name: **KNPE 327/3.0** Exercise Physiology Laboratory	**Course Instructor:** Dr. Nicole Beamish	**Contact Hours:** Lectures: 2 x 1 hr / 12 weeks Labs: 1 x 3 hr / 12 weeks
		Prerequisite: KNPE 125/3.0, KNPE 225/3.0, KNPE 227/3.0 Level 3 or above in a KINE Plan
		Exclusions:

Course Description:	**Course Texts:**
This lecture/laboratory experience is designed to establish student understanding of, and technical skills in, the measurement of human physiological responses and performance capacity in exercise. Students will learn the technical and theoretical basis for such measurement and develop familiarity with tests of physiological function during rest and exercise. This is intended to prepare them for experiences in human performance, clinical and medical settings.	Course notes and team-based learning session outlines will be posted on the KNPE 327 onQ page.

Learning Outcomes:	**Course Evaluation:**
- Describe the physiological responses to exercise that influence performance capacity. - Organize and conduct human performance capacity assessments to obtain valid and reliable responses and measures. - Integrate knowledge of laboratory and field performance capacity assessments to distinguish the contexts and populations that are most suited for each assessment. - Investigate exercise physiology and exercise testing literature to explore advances in exercise testing techniques and the interpretation of physiological responses.	Readiness checks 15% Assign #1: Physiological demands of sport 15% Assign #2: Combine design 15% Combine group presentation 15% Combine participation 5% Assign #3: Combine results report 10% Assign #4: Combine self-reflection and future Directions 25%

Course Outline

Principles of Measuring and Reporting Human Physiological Responses to Exercise	Incremental Exercise Test: Aerobic Function in Exercise / Maximal aerobic capacity
Data Acquisition, Analysis and Presentation	Ventilatory Threshold
Measures of Reliability	Pulmonary Function in Rest and Exercise
Cardiovascular Response to Exercise	

Laboratory	
Data Acquisition, Analysis and Presentation	Familiarization
Response to Exercise: Familiarization	Increased Dead Space and Resistance
Cardiovascular Response to Exercise	Aerobic Function in Exercise
Reliability and Physiology	Ventilatory Threshold
Pulmonary Function in Rest and Exercise	VO2 Max
Create Data Set demonstrating Systematic Error	Data for Laboratory Report
Reliability Measures / Measurement Error	Response to Alveolar Ventilation Disturbance in Exercise
Sex Differences in Cardiovascular Response to Exercise	Create Data Set with low inter-individual range vs. with high inter-individual range and compare ICC's
Valid Data Collection vs. Sources of Error Problem	Valid Data Collection vs. Sources of Error Problem
Laboratory Report Writing	Figure and Figure Legend Creation