Queen's University
School of Kinesiology and Health Studies

Course Name: **KNPE 225/3.0** Advanced Human Physiology	**Course Instructor:** Dr. Brendon Gurd	**Contact Hours:** Lectures: 2 x 1.5 hrs / 12 weeks Labs: 1 x 1 hr / 12 weeks
		Prerequisite: Level 2 or above and registration in a HLTH or KINE Plan and KNPE 125/3.0.
		Exclusion: PHGY 215/3.0; PHGY 216/3.0.

Course Description:

This course is designed to develop an understanding of the concept of homeostasis and the integrated control of cellular and organ responses involved in regulation and maintenance of homeostasis. Special emphasis will be placed on the systems that respond to exercise stress.

Course Texts:

Course notes will be posted on the KNPE 225 onQ page.

Learning Outcomes:

- Identify and describe what a given component in a physiological system IS and DOES to facilitate "physiological literacy."
- Explain and illustrate the key principles guiding physiological function and homeostatic regulation to guide building physiological system models.
- Explain and illustrate integrated physiological models to inform their application in understanding changes in any physiological variable.
- Develop and apply physiological models based on key principles of physiological function for several different physiological systems.

Course Evaluation:

Term tests 56%
Tutorial assignments 20% (8 x 2.5%)
Final exam 24%

Course Outline

The concept of homeostasis	Control of the heart and blood vessels
Basics of regulation – feedback systems	Regulation of blood pressure
Regulation of muscle metabolism/ Components of the physiological system	Regulation of tissue oxygen supply/ Mechanism to Symptom Physiological Problems
Control of ventilation / Component Recognition	Regulation of body temperature
Regulation of blood oxygen and carbon dioxide/	Regulation of Blood Glucose / Mechanism to

Applying principles of physiological function	Symptom Physiological Problems
Regulation of acid/base balance/ Component Recognition and model building	Predicting the physiological response to stressors / Symptom to Mechanism Physiological Problem