

<p><b>Course Name:</b> <b>KNPE 225/3.0</b></p> <p>Advanced Human Physiology</p>	<p><b>Course Instructor:</b> Dr. Michael Tschakovsky</p>	<p><b>Contact Hours:</b> Lectures: 2 x 1.5 hrs / 12 weeks Labs: 1 x 1 hr / 12 weeks</p>						
		<p><b>Prerequisite:</b> KNPE 125/3.0 Level 2 or above in a HLTH or KINE plan.</p>						
		<p><b>Exclusion:</b> PHGY 210/6.0, PHGY 212/6.0, PHGY 214/6.0 (PHGY 215/3.0 and PHGY 216/3.0)  PHGY 170/3.0 may not be taken with or after KNPE 225/3.0. PHGY 170/3.0 is not allowed in the KINE core requirements.</p>						
<p><b>Course Description:</b></p> <p>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.</p>		<p><b>Course Texts:</b></p> <p>There is an OnQ website for this course.</p>						
<p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>Identify and Describe <u>what a given component in a physiological system IS and DOES</u> to facilitate “physiological literacy”</li> <li>Explain and illustrate <u>the key principles guiding physiological function and homeostatic regulation</u> to guide building physiological system models</li> <li>Explain and Illustrate <u>integrated physiological models</u> to inform their application in understanding changes in any physiological variable</li> <li>Develop and Apply <u>physiological models based on key principles of physiological function for several different physiological systems</u> to solve physiological problems</li> <li>.</li> </ul>		<p><b>Course Evaluation:</b></p> <table border="0"> <tr> <td>Tests (5 X 8%)</td> <td>40%</td> </tr> <tr> <td>Problem Solving Assignments (5 x 8%)</td> <td>40%</td> </tr> <tr> <td>Final Exam</td> <td>20%</td> </tr> </table>	Tests (5 X 8%)	40%	Problem Solving Assignments (5 x 8%)	40%	Final Exam	20%
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<p><b>Course Outline</b></p>								

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