

<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>          Fall 2020 – Online Delivery</p>								
		<p><b>Prerequisite:</b>          KNPE 125/3.0          Level 2 or above in a HLTH, KINE or PHED plan.</p>								
		<p><b>Exclusion:</b>          No more than 6.0 units from KNPE 125/3.0; KNPE 225/3.0, PHGY 210/6.0, PHGY 212/6.0, PHGY 214/6.0</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>The Top Hat interactive learning platform provides a “mini-textbook” consisting of 6 chapters that are key original resources for development of your understanding and skill in understanding principles of physiological function and building physiological system models that enable physiological problem solving. These are required reading. When you register for Top Hat for the course, you will be provided with instructions.</p> <p>There is an onQ website for this course.</p>								
<p><b>Intended Student Learning Outcomes:</b>          At the conclusion of this course students should be able to: (Do What, With/To What, For What Purpose)</p> <ol style="list-style-type: none"> <li>1. Identify and Describe what a given component in a physiological system IS and DOES to facilitate “physiological literacy”</li> <li>2. Explain and illustrate the key principles guiding physiological function and homeostatic regulation to guide building physiological system models</li> <li>3. Explain and Illustrate integrated physiological models to inform their application in understanding changes in any physiological variable</li> <li>4. Develop and Apply physiological models based on key principles of physiological function for several different physiological systems to solve physiological problems</li> </ol>		<p><b>Course Evaluation:</b></p> <table> <tr> <td>Assignments</td> <td>20%</td> </tr> <tr> <td>Group Assignments</td> <td>35%</td> </tr> <tr> <td>Tests (5)</td> <td>25%</td> </tr> <tr> <td>Final Exam</td> <td>20%</td> </tr> </table>	Assignments	20%	Group Assignments	35%	Tests (5)	25%	Final Exam	20%
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### 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	Regulation of tissue oxygen supply
Control of ventilation	Regulation of body temperature
Regulation of blood oxygen and carbon dioxide	Regulation of Blood Glucose
Regulation of acid/base balance	Predicting the physiological response to stressors

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