

## 536-225 Integrated Biomedical Science II

<b>Credit Points:</b>	25.000
<b>Level:</b>	Undergraduate
<b>Dates &amp; Locations:</b>	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: Seventy-two hours of lectures and 48 hours of practicals and computer-aided learning classes. Total Time Commitment: 120 hours
<b>Prerequisites:</b>	521-225 Integrated Biomedical Science
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	<p>&lt;p&gt;For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.&lt;/p&gt;         &lt;p&gt;It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: &lt;a href="http://services.unimelb.edu.au/disability"&gt;http://services.unimelb.edu.au/disability&lt;/a&gt;&lt;/p&gt;</p>
<b>Coordinator:</b>	Associate Prof. Robert Kemm
<b>Subject Overview:</b>	<p>The overall aim will be to build on the knowledge developed in 521-225 Integrated Biomedical Science and to extend coverage to include the intermediary metabolism, organ and whole systems physiology and tissue biology, genes and gene expression and the major regulatory systems. The biochemistry stream (22 lectures) will cover metabolism, bioenergetics, waste elimination, regulation of metabolism including the molecular basis of cell signalling, molecular mechanisms and regulation of gene replication, expression and protein synthesis. Biochemistry will also combine with physiology to cover integrated whole body responses to metabolic and physiological stress and nutrition. The physiology stream (50 lectures) will incorporate active interaction between students and lecturers using personal response systems (PRS) clickers to answer questions during lectures. Lectures will address the transduction of neurotransmitter, hormone and other messages; control systems common to many organs, the autonomic nervous system the endocrine system and research approaches in experimental investigations. Coverage of specific organ systems will include renal, respiratory and cardiovascular systems, digestive and excretory, reproductive, locomotor, neurophysiology (taught with relevant histology and structure in conjunction with anatomy and cell biology). The practical work will be designed to develop and extend experimental, data analysis and interpretation skills in biochemistry and physiology techniques. Following completion of this subject, students should be able to develop communication skills (written and oral), critical thinking and analytical skills and participate effectively as a team member.</p>
<b>Assessment:</b>	Weekly assessment of written practical class reports of less than 1500 words (14%); computer-aided learning classes (5%); online e-learning (5%); effective PRS participation and contributions (5%); 1 scientific report in a journal format of less than 2000 words (9% total); one 1-hour written examination held mid-semester (14%); two 2-hour written examinations in the examination period on theory and practical work (24% each).
<b>Prescribed Texts:</b>	Dee U. Silverthorn, Human Physiology. 4th Edn. Pearson Education OR Rhoades and Pflanzer, Human Physiology. 4th. edn. Thomas Learning OR Sherwood, Human Physiology: From cells to systems. 5th edn. Thomas learning and Stryer,Biochemistry. 4th edn. WH Freeman and Co. OR Nelson and Cox, Lehninger Principles of Biochemistry. 3rd edn. Worth Publishers

<b>Breadth Options:</b>	<p>This subject is a level 2 or level 3 subject and is not available to new generation degree students as a breadth option in 2008.</p> <p>This subject or an equivalent will be available as breadth in the future.</p> <p>Breadth subjects are currently being developed and these existing subject details can be used as guide to the type of options that might be available.</p> <p>2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.</p>
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Notes:</b>	This subject is only available to Bachelor of Biomedical Engineering students.
<b>Related Course(s):</b>	<p>Bachelor of Engineering (Biomedical) Biomechanics</p> <p>Bachelor of Engineering (Biomedical)Biocellular</p> <p>Bachelor of Engineering (Biomedical)Bioinformatics</p> <p>Bachelor of Engineering (Biomedical)Biosignals</p>