

## 536-311 Molecular/Cellular Basis of Physiology

<b>Credit Points:</b>	12.500
<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: 31 lectures, 24 hours of assignments Total Time Commitment: 120 hours
<b>Prerequisites:</b>	At least one of Physiology 536-301, 536-303, 536-308.
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit.
<b>Coordinator:</b>	Prof D Williams
<b>Subject Overview:</b>	<p>The subject will provide a detailed understanding of how molecular and cellular mechanisms control the functional interactions of whole body systems, the integration and coordinated control of physiological systems, homeostasis and adaptations to change. Students will explore the most recent advances in select areas of physiology. Students select among a number of areas of study that reflect the dynamic nature of physiology and research focuses of the department. These include ion and channels and disease; the specialised role of calcium in cell control; genesis and treatment of muscle and injury/disease; gastrointestinal physiology and computational biology; signalling in neuronal cells; perinatal physiology; and stress proteins and skeletal muscle function.</p> <p>Students develop theoretical background in part using graduate skills in planning, communication, qualitative and quantitative critical analysis in using molecular, biological, biochemical and physiological approaches to investigate physiological processes. Students will be introduced to new technologies that enable the understanding of selected areas of study to be advanced. The assignment is designed to extend teamwork experiences and the ability to read critically and to evaluate and to communicate physiological information. Several of the units offered will be supported with a small group practical investigation in 536-304 Advanced Experimental Physiology.</p>
<b>Assessment:</b>	Two equally weighted 1-hour written examinations, one mid-semester and one late-semester (total 65%); a group poster assignment and presentation due during semester (25%); an individual assignment of not more than 500 words due during semester (10%).
<b>Prescribed Texts:</b>	None
<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>	<p>Students enrolled in the BSc (pre-2008 BSc), BAsSc or a combined BSc course will receive science credit for the completion of this subject.</p> <p>This subject is recommended for BSc students taking a physiology major or BBiomedSci students undertaking a specialisation in molecular and cell biology, integrated systems biology or reproductive and developmental biology.</p> <p>The subject matter taught in this subject is supported by the experimental investigations presented in 536-304 Advanced Experimental Physiology. It is a recommended companion subject.</p>
<b>Related Course(s):</b>	<p>Bachelor of Arts and Bachelor of Science Bachelor of Arts and Sciences Bachelor of Biomedical Science Bachelor of Science Graduate Diploma in Biotechnology</p>