

## 516-212 Fundamentals of Cell Biology

<b>Credit Points:</b>	12.50
<b>Level:</b>	2 (Undergraduate)
<b>Dates &amp; Locations:</b>	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: two x 1 hour lecture per week, one x 3 hour practical per 3 weeks and two x 2 hour on line workshops per 3 weeks Total Time Commitment: 52 contact hours with an estimated total time commitment of 120 hours
<b>Prerequisites:</b>	650-141 Biology of Cells & Organisms 650-142 Genetics & the Evolution of Life
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	It is highly recommended that students have undertaken a chemistry subject in first year. The minimum level of chemistry knowledge assumed for this subject is 610-171, Fundamentals of Chemistry.
<b>Non Allowed Subjects:</b>	Molecular & Cellular Biomedicine
<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. This subject requires all students to actively and safely participate in laboratory activities. Students who feel their disability may impact upon their participation are encouraged to discuss this with the subject coordinator and the Disability Liaison Unit.
<b>Coordinator:</b>	Dr Robb De longh
<b>Contact:</b>	Dr Robb de longh <a href="mailto:r.deiongh@unimelb.edu.au">r.deiongh@unimelb.edu.au</a> ( <a href="mailto:r.deiongh@unimelb.edu.au">mailto:r.deiongh@unimelb.edu.au</a> )
<b>Subject Overview:</b>	The subject builds on the basic cell biology concepts introduced in first year biology and develops students' understanding of the processes that regulate the structure and function of eukaryotic cells. Using examples from animal and plant cells, the subject will outline the cellular structures and molecular processes that are fundamental for regulating cell function in multicellular organisms. It will also explore the external signals (physical, molecular, electrochemical) that can lead to changes in cell behaviour, gene expression, protein synthesis or cell replication.
<b>Objectives:</b>	On completion of this subject students should have: <ul style="list-style-type: none"> <li># Developed a broad understanding of the structure of eukaryotic cells (plant and animal) and the compartments where various cellular activities occur.</li> <li># Identified the range of cellular activities that are especially relevant to multicellular organisation</li> <li># Understood how external signals can affect gene expression and protein synthesis and activity in cells, which lead to changes in cell behaviour such as proliferation, differentiation, migration or cell death</li> <li># Understood how electrical properties of cells are harnessed for electrochemical signalling</li> </ul>
<b>Assessment:</b>	3 continuing assessment tasks (10% each) during semester; 2 hour final examination (70%) in end of semester exam period
<b>Prescribed Texts:</b>	Alberts, A Johnson, J Lewis, M Raff, K Roberts & P Walter, Molecular Biology of the Cell, 5th Edition, Garland Science
<b>Breadth Options:</b>	This subject potentially can be taken as a breadth subject component for the following courses: <ul style="list-style-type: none"> <li># <b>Bachelor of Arts</b> (<a href="https://handbook.unimelb.edu.au/view/2009/D09">https://handbook.unimelb.edu.au/view/2009/D09</a>)</li> <li># <b>Bachelor of Commerce</b> (<a href="https://handbook.unimelb.edu.au/view/2009/F04">https://handbook.unimelb.edu.au/view/2009/F04</a>)</li> </ul>

	<p># <b>Bachelor of Environments</b> (<a href="https://handbook.unimelb.edu.au/view/2009/A04">https://handbook.unimelb.edu.au/view/2009/A04</a>)</p> <p># <b>Bachelor of Music</b> (<a href="https://handbook.unimelb.edu.au/view/2009/M05">https://handbook.unimelb.edu.au/view/2009/M05</a>)</p> <p>You should visit <b>learn more about breadth subjects</b> (<a href="http://breadth.unimelb.edu.au/breadth/info/index.html">http://breadth.unimelb.edu.au/breadth/info/index.html</a>) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</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>Generic Skills:</b>	<p>On completion of this subject students should have developed the following generic skills:</p> <ul style="list-style-type: none"> <li># Analytical and problem-solving skills</li> <li># Capacity to integrate knowledge from disparate sources</li> <li># Collaborative learning in practical class groups</li> <li># Skills in observation and interpretation</li> </ul>
<b>Notes:</b>	<p>This subject is not available to students enrolled in the Bachelor of Biomedicine.</p> <p>This subject is available for science credit to students enrolled in the BSc (both pre-2008 and new degrees), BASc or a combined BSc course.</p> <p>Students undertaking this subject will be expected to regularly access an Internet-enabled computer. During semester there will be limited access to computer laboratories.</p>
<b>Related Course(s):</b>	Bachelor of Biomedical Science