

BIOL10002 Biomolecules and Cells

Credit Points:	12.50						
Level:	1 (Undergraduate)						
Dates & Locations:	2011, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.						
Time Commitment:	Contact Hours: 3 x one hour lectures per week, 30 hours of practical activities during semester that include pre-laboratory activities and computer workshops and ten 1-hour tutorial/workshop sessions during semester Total Time Commitment: Estimated total time commitment of 120 hours						
Prerequisites:	None						
Corequisites:	None						
Recommended Background Knowledge:	None						
Non Allowed Subjects:	Credit cannot be gained for this subject and any of # 650-131 Biomed: Molecules, Cells and Organisms (prior to 2008) <table border="1" data-bbox="387 869 1485 1016"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>BIOL10004 Biology of Cells and Organisms</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	BIOL10004 Biology of Cells and Organisms	Semester 1	12.50
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BIOL10004 Biology of Cells and Organisms	Semester 1	12.50					
Core Participation Requirements:	For the purposes of considering applications for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005) and Students Experiencing Academic Disadvantage Policy, 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. http://www.services.unimelb.edu.au/disability/						
Coordinator:	Dr Mary Familiari						
Contact:	Biology Laboratory Level 5 Redmond Barry Building Tel: (03) 8344 4881 Fax: (03) 9347 0604 Email: biology-info@unimelb.edu.au (mailto:biology-info@unimelb.edu.au) Director of First Year Studies in Biology Dr Mary Familiari Email: m.familiari@unimelb.edu.au (mailto:m.familiari@unimelb.edu.au)						
Subject Overview:	This subject aims to familiarise students with modern concepts of molecular, and cell biology as a foundation for further studies in biomedicine. Major topics are addressed are <i>Cell and molecular biology</i> which includes the chemical building blocks of life, functioning cells, permeability, cell evolution and endosymbiosis; cell organelles, their structure and function; movement across membranes, the cell wall and extracellular matrix; cell metabolism: enzymes and cellular reactions, energy transformations and energy recycling, provide example phytochemistry, cell division, mitosis and meiosis; <i>Multicellularity</i> which includes a discussion of cells as part of systems, cells involved in transport; excitable cells; cells that communicate and signalling, cells that absorb, cells of the immune system reproductive cells, tissue culture and cloning.						
Objectives:	At the completion of this subject students should be able to						

	<ul style="list-style-type: none"> # describe the basic processes of life; the structure and function of both prokaryotic and eukaryotic cells # discuss using a comparative approach, circulation, nutrition and digestion, excretion, respiration and gaseous exchange, thermoregulation, reproduction, development, the immune systems, hormonal control and nervous systems.
Assessment:	A 40 minute, on-line multiple choice test held mid-semester (10%); work in practical classes during the semester, made up of written work not exceeding 1500 words, assessment of practical skills within the practical class, and no more than 4 short multiple choice tests (25%), completion of between 4 and 6 Independent Learning Tasks throughout the semester (5%); a 3-hour written examination on theory and practical work in the examination period (60%). A pass in the practical work is necessary to pass the subject.
Prescribed Texts:	D Sadava, D M Hillis, H G Heller, M R Berenbaum, Life. 9th Ed. Sinaver/Freeman, 2009
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<p>At the completion of this subject students should be able to:</p> <ul style="list-style-type: none"> # plan effective work schedules to be prepared for tutorials, practical classes and examinations. # be familiar with electronic forms of communication and be discerning in the use of the web for seeking information. # integrate the computer software packages into the course to assist learning. # dissection techniques and the preparation of slides; # the recording of observations and the analysis and interpretation of data; # the preparation of biological drawings; # manipulating laboratory equipment, in particular using microscopes; and # accessing information sources and discerning use of the world wide web
Notes:	<p>This subject is only available to students enrolled in the Bachelor of Biomedicine.</p> <p>Experiments involving the use of animals are an essential part of this subject; exemption from these experiments is not possible.</p> <p>Required Equipment - laboratory coat, dissection kit.</p>
Related Course(s):	Bachelor of Biomedicine