521-213 Integrated Biomedical Science I

Credit Points:	25
Level:	2 (Undergraduate)
Dates & Locations:	This subject is not offered in 2009.
Time Commitment:	Contact Hours: Six hours of lectures and three hours of practicals or self-directed computer-based learning exercises per week Total Time Commitment: 240 hours
Prerequisites:	650-131 and 650-132; 610-051 and 610-052.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	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.
Subject Overview:	This multidisciplinary subject blends biochemistry, molecular and cell biology, tissue biology and physiology, to develop knowledge of the relationship between the structure and function of the major classes of biomolecules, higher ordered structures and cells, as well as the contribution these molecules make to cellular, tissue and whole systems biology. The biochemistry component (36 lectures) covers structure and function of proteins, biological membranes, nucleic acids, gene expression and an introduction to recombinant DNA technology. The cell biology stream (24 lectures) covers the molecular machinery underlying key cell functions; integration of cells into tissues, particularly epithelial and connective tissues; cell-cell communication and signaling; tissue maintenance and stem cells; regulation of cell and tissue activities during development; and cancer from a cellular perspective. The introductory physiology stream (12 lectures) will concentrate on mammalian (especially human) physiology: homeostasis, the relationship between organs and organ systems, cell physiology, excitable cells and electrolyte transport. Practical work will develop basic experimental, data analysis and interpretation skills in biochemistry, physiology and cell and tissue biology techniques. In addition to the specific skills gained, students will think critically and organise knowledge from diverse resources, expand from theoretical principles to practical explanations and acquire abilities in collaborative work.
Assessment:	Ongoing assessment of laboratory practical work during the semester (15%); a 1500-word written assignment due during the semester (10%); two 1-hour multiple choice tests during the semester (5% total); two 2-hour written examinations in the examination period on theory and practical work (70% total).
Prescribed Texts:	None
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
Notes:	This subject is only available to Bachelor of Biomedical Science students.