521-212 Biochemistry & Molecular Biology Part B

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: 36 lectures (three per week); 12 hours of computer-based tutorials Total Time Commitment: 120 hours
Prerequisites:	Biochemistry 521-211.
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.
Coordinator:	Dr I Stanley
Subject Overview:	Gene expression and metabolism provide cells with the proteins and macromolecules that are essential to carry out their life processes. In this course, metabolic processes will be seen as the outcome of gene expression and regulation, by factors within and external to cells. While we investigate these processes, we achieve an understanding of contemporary work in genomics, proteomics and metabolomics. The content includes expression, transcription and translation of genes to yield functional proteins; regulation of gene expression; function and regulation of pathways for the catabolic and anabolic metabolism of carbohydrates, lipids and nitrogen-containing compounds in mammalian cells; bioenergetics and mitochondrial function; photosynthesis and carbon fixation. An introduction to the field of signal transduction explores the actions of hormones and their intracellular signalling pathways, critical to health and disease. The subject is appropriate for all with interests in fundamental research, biotechnology and bioinformatics. This core subject continues from 521-211 as a foundation for a career in the life sciences and is also a frequent choice for double degree students.
Assessment:	Ongoing computer-based assessment during the semester (10%); a 40-minute multiple choice examination held mid-semester (10%); a 3-hour written examination in the examination period (80%)
Prescribed Texts:	None
Breadth Options:	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. This subject or an equivalent will be available as breadth in the future. 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. 2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	In addition to the specific skills gained through study of biochemistry and molecular biology, students should develop the following generic skills:

	# the ability to think critically and organise knowledge, from consideration of the lecture material; # the ability to learn to adopt new ideas, from participation in the lecture program; and # the ability to plan effective work schedules and grow more confident in the synthesis of knowledge.
Notes:	Students enrolled in the BSc (pre-2008 BSc), BASc or a combined BSc course will receive science credit for the completion of this subject. Not available to students enrolled in the BBiomedSc.
Related Course(s):	Bachelor of Agricultural Science Bachelor of Agricultural Science Bachelor of Animal Science and Management Bachelor of Computer Science (Bioinformatics) Bachelor of Engineering(Biochemical Engineering)and Bachelor of Science Bachelor of Food Science Graduate Diploma in Biotechnology