521-322 Protein Biochemistry and Proteomics

Credit Points:	12.50
Level:	3 (Undergraduate)
Dates & Locations:	This subject is not offered in 2009.
Time Commitment:	Contact Hours: 48 hours practical work (four hours a week) plus 12 hours of lectures (one per week) Total Time Commitment: 120 hours
Prerequisites:	Biochemistry 521-211, 521-212 and 521-220.BBiomedSc students: 521-213 and 536-250.
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:	The subject explores various aspects of protein structure and function using a number of different approaches used in current research. Experiments will be selected from the following - Proteomics, the analysis of protein mixtures to determine protein identity and sequence using mass spectrometry; studies on the catalytic mechanisms of enzyme action; the thermodynamics of protein unfolding and investigations into the binding of small molecules to amyloid fibrils and other proteins of biological and medical interest. The lecture series will support the practical part of the course providing background information and current advances in the areas of study. By the end of the subject, the student should have developed skills in experimental methods used in investigations of protein structure and function and in the critical evaluation of the experimental data derived from such experiments. They should also be able to apply these skills in the performance of a number of experiments and in the interpretation of experimental data using appropriate model simulations. In addition to these specific skills, students will develop an appreciation for the current scientific literature and acquire problem-solving abilities in a collaborative setting. Students will learn how to maintain a laboratory notebook containing a detailed record of the experiments carried out and prepare written reports describing these experiments. Experimental work may be organised into elective streams, one of which will involve an opportunity to undertake relevant project work within one of the department's research laboratories (a quota will apply).
Assessment:	Laboratory skills and practical management of the experimental program throughout the semester (30%); a 2-hour written examination in the examination period (40%).Laboratory streams: written reports on laboratory experiments due during the semester (30%).Project stream: a written research report of up to 2500 words due at the end of the semester (30%).
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:	Students enrolled in the BSc (pre-2008 BSc), BASc or a combined BSc course will receive science credit for the completion of this subject. Before the commencement of the semester, students must advise the Department of Biochemistry and Molecular Biology of their order of preference for the alternative practical sessions and the other subjects they will be taking. (See subject web site for details).

Related Course(s):	Graduate Diploma in Biotechnology