610-310 Physical Chemistry IIIA

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 1, - Taught on campus.
Time Commitment:	Contact Hours: Twenty-four lectures (three per week for eight weeks) and 32 hours of practical work Total Time Commitment: 120 hours
Prerequisites:	Chemistry 610-210 or 610-211 and 610-215
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	Credit cannot be gained for this subject and 610-311 or 610-315.
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. 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.
Coordinator:	Professor F Grieser
Subject Overview:	Upon completion of 610-310, students should relate UV-visible spectroscopy to the fates of electronically excited molecules; understand photochemical kinetics and its application to controlling light-induced processes; understand the main concepts of equilibrium electrochemistry and be able to apply electrochemical principles to interpret the behaviour of solutions and galvanic cells; understand the nature of a surface and the phenomena of spreading behaviour of liquids, capillary rise, vapour pressure, superheating, crystal solubility and super-saturation; understand the processes of micelle formation from surfactants and gas adsorption on solids; and have developed skills in experimental techniques and instrumental methods of physical chemistry. The subject covers surface chemistry, electrochemistry, photochemistry, and reactions of reactive intermediates. The practical course will consist of a number of experiments involving the physical and instrumental investigations of important chemical systems and phenomena.
Assessment:	Ongoing assessment of practical work in the form of short reports due during the semester (25%); written assignments not exceeding 10 pages due during the semester (5%); a 3-hour written examination in the examination period (70%). Satisfactory completion of practical work is necessary to pass the subject.
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
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.

Related Course(s):	Bachelor of Arts and Bachelor of Science Bachelor of Arts and Sciences Bachelor of Biomedical Science Bachelor of Science