610-311 Physical Chemistry IIIB

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: 36 lectures Total Time Commitment: 120 hours
Prerequisites:	Chemistry 610-210 or 610-211. Concurrent enrolment in 610-315 is strongly recommended.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	Credit cannot be gained for this subject and 610-310.
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 participation are encouraged to discuss this with the subject coordinator and the Disability Liaison Unit.
Coordinator:	Professor F Grieser
Subject Overview:	Upon completion of 610-311, students should understand the basis behind statistical mechanics and intermolecular forces and how these relate to the formation and stability of complex fluids/ phases and soft condensed matter; understand the concepts of equilibrium electrochemistry and the principles controlling the rates of electrode processes; be able to quantitatively describe the role of surfaces in a variety of important chemical phenomena and to use models to describe micelle formation from surfactants; understand the range of techniques for the production of atomic and free radical species and the kinetic aspects of abstraction, addition and branched chain reactions; appreciate the principles of molecular spectroscopy, spectral interpretation and laser action; be able to quantitatively characterise excited state properties and understand their significance in processes such as photosynthesis and photodegradation of materials; and understand the solution properties of macromolecules. The subject covers surface chemistry; electrochemistry; photochemistry; reactions of unstable species; complex fluids and their phase behaviour; and macromolecules.
Assessment:	Written assignments not exceeding 15 pages due during the semester (10%); a 3-hour written examination in the examination period (90%).
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 Science