

610-311 Physical Chemistry IIIB

Credit Points:	12.50
Level:	3 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus. Lectures
Time Commitment:	Contact Hours: 36 lectures Total Time Commitment: 120 hours total time commitment
Prerequisites:	One of # 610-210 (prior to 2009) # 610-211 (prior to 2009) Concurrent enrolment in <i>Physical Chemistry Practical III</i> is strongly recommended.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	Credit cannot be gained for this subject and <i>Physical Chemistry IIIA</i> .
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:	Prof Franz Grieser
Subject Overview:	Upon completion of <i>Physical Chemistry IIIB</i> 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.
Objectives:	.
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 potentially can be taken as a breadth subject component for the following courses: # Bachelor of Arts (https://handbook.unimelb.edu.au/view/2009/D09) # Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2009/F04) # Bachelor of Environments (https://handbook.unimelb.edu.au/view/2009/A04) # Bachelor of Music (https://handbook.unimelb.edu.au/view/2009/M05)

	You should visit learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.
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 Majors/Minors/ Specialisations:	Chemistry