

610-310 Physical Chemistry IIIA

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 and practical work
Time Commitment:	Contact Hours: Twenty-four lectures (three per week for eight weeks) and 32 hours of practical work Total Time Commitment: 120 hours total time commitment
Prerequisites:	Either # 610-210 (prior to 2009) Or both of # 610-211 (prior to 2009) # 610-215 (prior to 2009)
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	Credit cannot be gained for this subject and <i>Physical Chemistry IIIB</i> or <i>Physical Chemistry Practical III</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. 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:	Prof Franz Grieser
Subject Overview:	Upon completion of <i>Physical Chemistry IIIA</i> , 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.
Objectives:	.
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 potentially can be taken as a breadth subject component for the following courses:

	<p># Bachelor of Arts (https://handbook.unimelb.edu.au/view/2009/D09)</p> <p># Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2009/F04)</p> <p># Bachelor of Environments (https://handbook.unimelb.edu.au/view/2009/A04)</p> <p># Bachelor of Music (https://handbook.unimelb.edu.au/view/2009/M05)</p> <p>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.</p>
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 Biomedical Science
Related Majors/Minors/Specialisations:	Chemistry