

## 610-210 Light, Matter & Chemical Change A

<b>Credit Points:</b>	12.500
<b>Level:</b>	Undergraduate
<b>Dates &amp; Locations:</b>	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: 24 lectures (three per week for eight weeks), eight tutorials and 30 hours of practical work Total Time Commitment: 120 hours.
<b>Prerequisites:</b>	One of chemistry 610-141, 610-121 or 610-051 plus one of 610-142, 610-122 or 610-052. 100-level mathematics and 100-level physics are recommended.
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	Credit cannot be gained for this subject and 610-211 or 610-215.
<b>Core Participation Requirements:</b>	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.
<b>Coordinator:</b>	Associate Professor M L Gee
<b>Subject Overview:</b>	<p>Upon completion of 610-210, students should have an appreciation for the rates and mechanisms of enzyme catalysed reactions and environmentally significant atmospheric processes; understand the concepts of entropy and free energy and their application to chemical and biological systems; understand the interactions between molecules and light and the use of light in the determination of molecular structure; and have developed experimental skills in the operation of instrumentation for the acquisition of physical data, as well as observational and critical analysis skills for the interpretation and presentation of data.</p> <p>The subject covers the dynamics of molecular processes; energy transformation and storage in chemical and biological systems; and the interaction between molecules and light, and its relationship to molecular structure. The practical course will consist of experiments involving physical and instrumental investigations of important chemical systems and phenomena.</p>
<b>Assessment:</b>	Ongoing assessment of practical work in the form of short reports throughout the semester (25%); written assignments and class tests during the semester (10%); a 3-hour written examination in the examination period (65%). Satisfactory completion of practical work is necessary to pass the subject.
<b>Prescribed Texts:</b>	Physical Chemistry (PW Atkins), 6th edn, OUP, 1998
<b>Breadth Options:</b>	<p>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.</p> <p>This subject or an equivalent will be available as breadth in the future.</p> <p>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.</p> <p>2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.</p>
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	This subject will provide the student with the opportunity to establish/ develop the following generic skills: problem solving and critical thinking skills, the ability to use conceptual models to rationalize observations, an understanding of the changing knowledge base, a capacity to

	articulate knowledge and understanding in written presentation, and a capacity to manage competing demands on time including self-directed work.
<b>Notes:</b>	Students enrolled in the BSc (pre-2008 BSc), BAsC or a combined BSc course will receive science credit for the completion of this subject.
<b>Related Course(s):</b>	Bachelor of Engineering (Chemical Engineering)