

610-333 Molecular Technology

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: 36 lectures (3 per week for 12 weeks) and tutorials (optional) Total Time Commitment: 120 hours
Prerequisites:	At least two of chemistry 610-210 or 610-211; 610-220 or 610-221; 610-240 or 610-241; 610-260; 610-280.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
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:	Dr U Wille
Subject Overview:	<p>Upon completion of this subject, students should have an understanding of the development and application of molecular technology. Developments in the modern chemistry industry will be examined together with the rise of 'new' technologies in the biological, materials and nanotechnology sectors. Additionally, the course continues the development and training of students in scientific method, analysis and observation. It teaches students skills in interpretation, professional presentation and quantitative analysis.</p> <p>The program will be selected from the following topics:</p> <ul style="list-style-type: none"> # petrochemicals: synthesis on the industrial scale; non-renewable and renewable carbon sources; # pharmaceuticals and Agricultural Derivatives: natural and synthetic agents for animal and human health and crop protection; # industrial processes involving photochemical, electrochemical, sonochemical and stereoselective key steps; # polymers: fundamental properties; smart polymers; biodegradable systems, conducting polymers; # advanced materials: introduction to materials chemistry, bonding, band structure, electronic and optical properties of materials; atomic force microscopy, scanning tunnelling microscopy; quantum size effects; advanced materials such as conducting glass, solar cells, LEDs.
Assessment:	Three 30-minute take home tests held 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 Graduate Diploma in Biotechnology