

## 610-360 Analytical & Environmental Chemistry

<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: 18 lectures and 32 hours of practical (project) work Total Time Commitment: 120 hours
<b>Prerequisites:</b>	Either Chemistry 610-260 or 610-280.
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<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. 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.
<b>Coordinator:</b>	Dr S D Kolev
<b>Subject Overview:</b>	This subject covers the main sources and types of environmental contaminants in the biosphere (water, soil and air) with a focus on water contaminants and their effect on water quality. The most frequently used analytical techniques in environmental and industrial monitoring and analysis will be outlined in the context of achieving desirable environmental outcomes. These techniques include volumetric analysis, gravimetric analysis, optical techniques such as inductively coupled plasma optical emission spectrometry, and electroanalytical techniques such as potentiometry (ion-selective electrodes, potentiometric stripping analysis) and voltammetry (polarography, anodic stripping voltammetry). Upon completion of the subject, students will have acquired an in-depth understanding of the origin, distribution and role of environmental contaminants, and be able to select suitable methods for monitoring them. Students will also learn to apply analytical and problem-solving skills to the consideration of treatment options for industrial effluents. From the practical component, students will acquire enhanced laboratory skills and competence in using modern laboratory techniques.
<b>Assessment:</b>	Ongoing assessment of practical work in the form of short laboratory reports due during the semester (50%); a 45-minute written test held mid-semester (10%); a 2-hour written examination in the examination period (40%). Satisfactory completion of both theory and practical work is necessary to pass the subject.
<b>Prescribed Texts:</b>	None
<b>Breadth Options:</b>	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.
<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>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.

**Related Course(s):**

Bachelor of Arts and Bachelor of Science  
Bachelor of Arts and Sciences  
Bachelor of Biomedical Science  
Bachelor of Science