

## 421-210 Environmental Engineering - Basics

<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 1, - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: Thirty lectures, 4 tutorials, 4 hours computer labs, 6 hours design classes, and 1 site visit. Total Time Commitment: Not available
<b>Prerequisites:</b>	None
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	<p>&lt;p&gt;For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.&lt;/p&gt; <p>&lt;p&gt;It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: &lt;a href="http://services.unimelb.edu.au/disability"&gt;http://services.unimelb.edu.au/disability&lt;/a&gt;&lt;/p&gt;</p> </p>
<b>Coordinator:</b>	Lu Aye
<b>Subject Overview:</b>	An introduction to structure, function and reproduction of living cells, tissues and organisms. Plant physiology. Microbiology and its application to waste treatment. An introduction to heat transfer in the natural and built environment. Techniques for problem definition in environmental engineering; nature of environmental engineering systems and their sub-systems; conceptual modelling of systems; conceptual design and creative thinking; planning methodology; function; performance, failure and reliability, communication by reports plans. Economy and life-cycles costs.
<b>Assessment:</b>	One end of semester examination 2-hours (60%); Three in-class conceptual design group reports over the first 8 weeks of semester (10%); One mid-semester test of 1 hr (15%); Up to three online quizzes totalling less than 1 hour in the latter third of semester (5%); three practical reports of no more than 500 words each spread over the semester (10%). Attendance at excursions is compulsory.
<b>Prescribed Texts:</b>	None
<b>Breadth Options:</b>	This subject is not available as a breadth subject.
<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>	<p>At the end of this subject, students should be able to:</p> <ul style="list-style-type: none"> <li># converse on a professional, interdisciplinary level with biological scientists and practitioners</li> <li># use rate equations to describe microbiological treatment of wastes</li> <li># describe heat energy flows and apply heat transfer equations to solve one dimensional problems</li> </ul>

	<ul style="list-style-type: none"><li># apply simplified mass and energy balance equations to the soil and water environment to assist in identifying the processes influencing the environment</li><li># apply a range of design tools to solve engineering problems of limited scope and complexity</li><li># Problem solving; group work skills development; and making site visit observations</li></ul>
<b>Related Course(s):</b>	Bachelor of Engineering (EngineeringManagement) Environmental Bachelor of Engineering (Environmental Engineering) Bachelor of Engineering (Environmental) and Bachelor of Arts Bachelor of Engineering (Environmental) and Bachelor of Commerce Bachelor of Engineering (Environmental) and Bachelor of Laws Bachelor of Engineering (Environmental) and Bachelor of Science