

## 220-508 Timber in the Built Environment

<b>Credit Points:</b>	12.50
<b>Level:</b>	9 (Graduate/Postgraduate)
<b>Dates &amp; Locations:</b>	2009, This subject commences in the following study period/s: October, - Taught on campus. Intensive teaching mode
<b>Time Commitment:</b>	Contact Hours: Equivalent of twenty-four hours lectures and 36 hours practical work, delivered in a two week teaching block. Total Time Commitment: -
<b>Prerequisites:</b>	-
<b>Corequisites:</b>	-
<b>Recommended Background Knowledge:</b>	-
<b>Non Allowed Subjects:</b>	-
<b>Core Participation Requirements:</b>	-
<b>Coordinator:</b>	Assoc Prof Barbara Ozarska, Prof Peter Vinden
<b>Contact:</b>	-
<b>Subject Overview:</b>	<p>This subject introduces students to the impact of wood utilisation in the environment, the concepts of sustainability, cradle to grave analysis, ISO 14001 within the context of continuous environmental improvement in an industrial environment, energy and chemical production from biomass. Students will be introduced to concepts in:</p> <ol style="list-style-type: none"> <li>1. timber engineering, including the mechanical properties of wood (stress and strain, compression stress, tension shear, bending, elastic and plastic deformation, factors affecting mechanical properties, wood creep, visual and machine stress grading, fasteners and connectors.</li> <li>2. design durability, including fire resistance, surface coatings, smell, acid resistance, electrical properties, acoustic properties, permeability, gluing properties and adhesion</li> <li>3. the design of structures, the role of industrial design, automation and modular coordination in building and furniture manufacture</li> <li>4. biomass waste utilisation and recycling, the various processing options available</li> <li>5. forest industries and their role in developing economies.</li> </ol>
<b>Objectives:</b>	<p>On completion of this subject students should have a practical knowledge of:</p> <ol style="list-style-type: none"> <li>1. The concepts in sustainability</li> <li>2. Continuous environmental improvement</li> <li>3. Options in biomass utilisation and recycling</li> <li>4. Cradle to grave analysis</li> <li>5. Timber engineering</li> <li>6. Design durability</li> <li>7. The design of timber structures</li> </ol>

	8. Forest industries and their role in economic development
<b>Assessment:</b>	Completion of an assignment for example a literature review or project relating to the practical application environmental reporting or design of a timber structure. Project proposal (500 words) 5%, Report (4000 words) 65%, Presentation 10%, Work book and laboratory book (2000 words) 20%
<b>Prescribed Texts:</b>	Course notes will be provided
<b>Recommended Texts:</b>	<p><i>Timber Engineering Step 1. Basis of design, material properties, structural components and joints.</i> First Edition, Centrum Hout, The Netherlands.</p> <p><i>Timber Engineering Step 2. Design - Details and structural system.</i> First Edition, Centrum Hout, The Netherlands.</p> <p><i>Wood Handbook. Wood as an Engineering Material.</i> US Department of Agriculture, Forest Products Laboratory. Ag. Handbook No. 72.</p>
<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>	-
<b>Links to further information:</b>	<a href="http://www.forests.unimelb.edu.au/subjects.html">http://www.forests.unimelb.edu.au/subjects.html</a>
<b>Related Course(s):</b>	Master of Forest Ecosystem Science