

220-412 Wood Science & Technology

Credit Points:	12.500
Level:	Graduate/Postgraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 1, - Taught on campus. Regular teaching mode at the Creswick Campus
Time Commitment:	Contact Hours: Equivalent of twenty-four hours lectures and 36 hours practical work Total Time Commitment: 100 hours
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	<p><p>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.</p> <p>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: http://services.unimelb.edu.au/disability</p></p>
Coordinator:	Prof P Vinden
Subject Overview:	<p>In this subject students will develop a basic understanding of the structural and functional elements of a tree and how it grows in height and girth; the cell wall and how the anatomy of wood can be used for species identification; and the effect of wood anatomy on wood properties with particular emphasis on wood permeability. The subject will also introduce students to the biology of wood decay fungi and wood destroying insects; the behaviour, anatomy and physiology of the biological agents and a taxonomic description of the economic important fungi, termites, and wood borers.</p> <p>Students will be introduced to the basics of wood processing, including solid wood processing (sawmilling, drying and wood preservation), composite products manufacture and pulp and paper manufacture. This topic also develops an understanding of the issues facing the forest industries in Australia.</p> <p>On completion of this subject, students should be able to:</p> <ul style="list-style-type: none"> # Describe the macroscopic and microscopic features of hardwood and softwood xylem and phloem wood and bark structure, anatomy and ultrastructure. # Use computer based techniques for timber identification # Understand the effects of cell wall organization on some wood properties; # Have a basic understanding of the chemical composition and properties of wood; # Understand anatomical, chemical and physical characteristics associated with heartwood formation, growth stresses, reaction wood and natural features in wood. # Identify the cause of wood degradation. <p>Identify raw material attributes needed in wood processing.</p>
Assessment:	Completion of an assignment involving either a literature review or laboratory research project. Project proposal (500 words) 5% Report (4000 words) 65% Presentation 10% Work book and laboratory book (1000 words) 20%

Prescribed Texts:	Course notes will be provided
Recommended Texts:	Walker, J. (2006) Primary Wood Processing - Principles and Practice, 2nd Edition. (Ed JCL Walker). The Netherlands, Springer.
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Links to further information:	http://www.forests.unimelb.edu.au/subjects.html