220-408 Functional Tree Biology

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: March, - Taught on campus. Intensive teaching mode at Creswick. Teaching period 30/03/09 - 09/04/09. Assessment period 30/03/09-10/06/09.
Time Commitment:	Contact Hours: 48 hours of lectures, practical work and tutorials in a 2 week intensive teaching block Total Time Commitment: 96 hours
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	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. 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
Coordinator:	Dr Michael Tausz
Subject Overview:	This subject will provide a broad understanding of functional tree biology. Modern forest science, ecology and management relies on tools and models based on functional parameters of trees, e. g. in forest growth modelling, estimating water use by forests, assessing risks by environmental extremes, quantifying carbon sequestration by forests etc. Masters level forest scientists are expected to adequately and critically interpret such scenarios and outputs, a task that can only be achieved by the fundamental understanding of how the main forest resource - trees - work.
Objectives:	By the end of the subject students should: # Understand the structure of trees in relation to associated functional aspects (growth, wood formation, water and nutrient uptake, environmental interactions) # Have a good knowledge of the fundamental processes of tree life and primary production - photosynthesis, respiration, nutrition; # Understand water relations and water use of trees; # Have a broad knowledge of primary and secondary metabolism of trees; # Understand principles of tree-environment interactions (ecophysiology); # Understand strategies used by trees to withstand adverse environmental conditions (stress physiology); # Have an overview of methods to measure the life functions of trees; # Be able to critically evaluate the use of tree physiological characteristics in models and scenarios; # Recognise the importance of trees in ecosystems in general and value the inherent beauty of trees as an organism.
Assessment:	Oral presentation (30%). Written assignment (3000-5000 words, 70%).

Prescribed Texts:	None
Recommended Texts:	Lambers, H. (1998) Plant Physiological Ecology. Springer, New York.
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
Related Course(s):	Master of Forest Ecosystem Science