

620-352 Graph Theory

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 1, - Taught on campus.
Time Commitment:	Contact Hours: 36 lectures (three per week) and up to 12 practice classes (one per week) Total Time Commitment: 120 hours
Prerequisites:	Any two 200-level subjects from the Department of Mathematics and Statistics. Computer Science 433-253 may be substituted for one of these subjects.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	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. Students who feel their disability may impact upon their active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit.
Coordinator:	A/Prof A Owczarek
Subject Overview:	<p>This subject introduces the basic concepts of graph theory including isomorphic graphs, subgraphs, connectedness, bipartite graphs, paths and cycles, trees, weighted graphs and distance in graphs, Steiner trees, matchings, flows and eulerian circuits. Students should develop the ability to implement algorithms on graphs for finding objects such as minimum spanning trees, maximum matchings and flows; and to implement approximation algorithms. Students should also develop the ability to prove simple results in graph theory. This subject demonstrates the variety of applications of graph theory within and outside mathematics.</p> <p>Introduction to graph theory topics include the concepts listed above, but may also include colouring properties, combinatorics, and the probabilistic method.</p>
Assessment:	Up to 24 pages of written assignments due during semester (0% or 10%); a 3-hour written examination in the examination period (90% or 100%). The relative weighting of the examination and the total assignment mark will be chosen so as to maximise the student's final mark.
Prescribed Texts:	None
Breadth Options:	<p>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.</p> <p>This subject or an equivalent will be available as breadth in the future.</p> <p>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.</p> <p>2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Notes:	This subject is available for science credit to students enrolled in the BSc (pre-2008 degree only), BASc or a combined BSc course.
Related Course(s):	Bachelor of Arts Bachelor of Arts and Bachelor of Science Bachelor of Arts and Sciences Bachelor of Science