

620-615 Network Optimisation

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 2, - Taught on campus. On-campus.
Time Commitment:	Contact Hours: 36 hours comprising 2 one-hour lectures per week and 1 one-hour practice class per week. Total Time Commitment: 3 contacts and 7 hours private study per week.
Prerequisites:	None.
Corequisites:	None.
Recommended Background Knowledge:	It is recommended that students have completed a sound introductory level subject in operations research (equivalent to 620-261 [2008] Introduction to Operations) or a third year subject in graph theory (equivalent to 620-352 [2008] Graph Theory).
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 participation are encouraged to discuss this with the subject coordinator and the Disability Liaison Unit.
Coordinator:	Assoc Prof Sanming Zhou
Subject Overview:	Network optimization problems arise from a diversity of areas such as Industry, Management, VLSI Layout, Transportation, Telecommunication, Computer Networking, Information Processing, etc. This subject is an introduction to Network Optimization with focus on important ideas, theoretical results and algorithms. It covers classical problems that can be solved in polynomial time, and some more difficult (NPhard) problems for which polynomial time algorithms are unlikely to exist.
Objectives:	After completing this subject, students should: <ul style="list-style-type: none"> - be able to understand aspects of network optimisation problems and the methodologies to solve them; - develop the abilities needed to design combinatorial algorithms for solving other network problems not covered in the subject; - have the ability to pursue further studies in this and related areas.
Assessment:	Up to 50 pages of written assignments (40%: two assignments worth 20% each, due mid and late in semester), a 3 hour written examination (60%, in the examination period).
Prescribed Texts:	TBA
Recommended Texts:	TBA
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
Generic Skills:	Upon completion of this subject, students should develop: <ul style="list-style-type: none"> - Problem-solving skills (especially through tutorial exercises and assignments) including engaging with unfamiliar problems and identifying relevant strategies; - Analytical skills including the ability to construct and express logical arguments and to work in abstract or general terms to increase the clarity and efficiency of the analysis; - Ability to work in a team, through interactions with other students.
Related Majors/Minors/Specialisations:	R05 RM Master of Science - Mathematics and Statistics