431-685 Introduction to Optimisation

Credit Points:	12.500
Level:	Graduate/Postgraduate
Dates & Locations:	This subject is not offered in 2008.
Time Commitment:	Contact Hours: 24 hours; Non-contact time commitment: 96 hours Total Time Commitment: Not available
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:	Brian Krongold
Subject Overview:	The course covers both combinatorial optimisation and convex optimisation. Combinatorial optimisation will include topics selected from: linear and integer programming, network optimisation and network flow models, complexity theory and analysis, NP-hard combinatorial optimisation problems. Convex optimisation will include topics selected from: convex sets and convex functions, convex optimisation problems, duality, unconstrained optimisation algorithms, constrained optimisation algorithms.
Assessment:	Continuous assessment (40%) to the equivalent of 3 hours writing time. Final Exam 3 hours, worth 60%. Students are required to pass the final examination in order to pass the subject as a whole.
Prescribed Texts:	None
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:	The aim of this subject is to give students a rigorous introduction to the mathematical tools of optimisation, as used across all of science, and particularly in engineering design. There will be an emphasis on both the theory and applications of optimisation techniques.
Notes:	This subject is not offered in 2008
Related Course(s):	Ph.D.- Engineering