

620-646 Advanced Discrete Mathematics

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: Three contact hours per week and seven hours private study.
Prerequisites:	None.
Corequisites:	None.
Recommended Background Knowledge:	It is recommended that students have completed third year subjects in graph theory and/or discrete mathematics (equivalent to 620-352 [2008] Graph Theory or 620-353 [2008] Discrete Mathematics).
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:	Dr Richard Brak, Prof Peter John Forrester
Subject Overview:	The subject consists of four main topics. These are combinatorial logic by way of Sperner's lemma and Ramsey theory; combinatorics on words and Sturmian sequences; bijective enumeration with applications to maps lattice paths and trees; integer partitions and tableaux. This subject has relevance to a broad range of specialisations.
Assessment:	Up to 50 pages of written assignments (45%: three assignments worth 15% each, due early, mid and late in semester), a 3 hour written examination (55%, in the examination period).
Prescribed Texts:	None.
Recommended 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:	Upon completion of this subject, students should develop: <ul style="list-style-type: none"> - Problem solving skills: the ability to engage with unfamiliar problems and identify relevant solution strategies; - Analytic skills: the ability to construct and express logical arguments and to work in abstract or general terms to increase the clarity and efficiency of analysis; - Collaborative skills: the ability to work in a team; - Time management skills: the ability to meet regular deadlines while balancing competing commitments.
Related Majors/Minors/Specialisations:	R05 RM Master of Science - Mathematics and Statistics