

### 300-level SUBJECT HANDBOOK ENTRY 2008 – New Generation subjects

<b>Subject Code</b>	620-353
<b>Title of the subject</b>	Discrete Mathematics
<b>Credit points</b>	12.5
<b>Coordinator</b>	Karen Baker
<b>Semester of offer</b>	2
<b>Prerequisites and/or corequisites</b>	620-2xx Real Analysis with Applications or 620-xxx Multivariable & Vector Calculus
<b>Mode of delivery</b>	Lectures and practice classes
<b>Contact hours</b>	36 one-hour lectures (three per week) and up to 12 practice classes (one per week)
<b>Estimated total time commitment</b>	120
<b>Description</b>	The course is divided into five main topics of study: bijective aspects of permutations and combinations; Ramsey theory, tilings and combinatorial logic; recursive structures relating to the Fibonacci sequence and Penrose tilings; finite group theory and permutations with application to the Rubik cube; distinct representatives and combinatorial designs.
<b>Assessment</b>	Up to 50 pages of written assignments 20% (due during semester), a 3-hour written examination 80% (in the examination period).
<b>Prescribed texts</b>	
<b>Notes</b>	
<b>Subject objectives</b>	
<b>Generic skills</b>	<p>In addition to learning specific skills that will assist students in their future careers in science, they will have the opportunity to develop generic skills that will assist them in any future career path. These include</p> <ul style="list-style-type: none"> <li>• problem-solving skills: the ability to engage with unfamiliar problems and identify relevant solution strategies;</li> <li>• analytical 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;</li> <li>• collaborative skills: the ability to work in a team;</li> <li>• time-management skills: the ability to meet regular deadlines while balancing competing commitments.</li> </ul>