

300-level SUBJECT HANDBOOK ENTRY 2008 – New Generation subjects

Subject Code	620-361
Title of the subject	Techniques in Operations Research
Credit points	12.5
Coordinator	Karen Baker
Semester of offer	1
Prerequisites and/or corequisites	620-2xx Real Analysis with Applications and 620-2xx Discrete Maths & Operations Research; or 620-xxx Multivariable & Vector Calculus and 620-2xx Discrete Maths & Operations Research
Mode of delivery	Lectures and practice classes
Contact hours	36 one-hour lectures (three per week) and up to 12 practice classes (one per week)
Estimated total time commitment	120
Description	This subject introduces a number of basic techniques of operations research. Topics include nonlinear and parametric optimisation, and decision-tree, network and inventory models. It develops the formulation of operations research models and algorithms with application in production planning, scheduling, inventory management and capital budgeting. Case studies and projects are undertaken and computer packages utilized.
Assessment	Up to 50 pages of written assignments 20% (due during semester), a 3-hour written examination 80% (in the examination period).
Prescribed texts	
Notes	
Subject objectives	
Generic skills	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 <ul style="list-style-type: none"> • problem-solving skills: the ability to engage with unfamiliar problems and identify relevant solution strategies; • 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; • collaborative skills: the ability to work in a team; • time-management skills: the ability to meet regular deadlines while balancing competing

	commitments.
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