

BUSA90470 Cases in Business Modelling

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| Credit Points: | 12.50 |
| Level: | 9 (Graduate/Postgraduate) |
| Dates & Locations: | 2011, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus. |
| Time Commitment: | Contact Hours: 3 x one hour lectures per week Total Time Commitment: 108 hours per semester |
| Prerequisites: | None |
| Corequisites: | None |
| Recommended Background Knowledge: | None |
| Non Allowed Subjects: | None |
| Core Participation Requirements: | Students undertaking this subject will be expected to regularly access an internet-enabled computer. The computer must be capable of running Microsoft Excel and, if a Macintosh computer, should be running Windows emulation software such as Bootcamp. Students undertaking this subject will be expected to be competent in the use of Microsoft Excel. |
| Contact: | Melbourne Graduate School of Science Faculty of Science The University of Melbourne Tel: + 61 3 8344 6404 Fax: +61 3 8344 5803 Web: http://graduate.science.unimelb.edu.au (http://graduate.science.unimelb.edu.au) |
| Subject Overview: | The subject will be divided into three components which will be chosen from the following four topic areas: A. Data and Decisions. Here we use basic statistical models and decision theory to produce solutions to common decision situations that arise in management. Tools used include structured decision trees, optimisation, regression and Bayesian analysis. B. Operations Management. This component will focus on using management science models in the context of both manufacturing and service operations. Case studies will be used to illustrate the use of these techniques in practise. There will also be discussion of how the results of models affect strategic choices and decision making. C. Marketing Models. The Marketing Models component of the course will provide you with hands-on approaches for conceptualizing and applying decision models to address marketing and business issues such as segmentation, targeting, positioning, and resource allocation. Several cases will be studied in areas such as optimal advertising spend, marketing resource allocation and yield management. D. Quantitative Financial Modelling. Here we provide an overview of commonly employed quantitative models in financial econometric analysis and mathematical financial modelling. Topics include stochastic volatility, value at risk, portfolio theory, modelling asset prices, factor models and risk management through derivatives. |
| Objectives: | The subject is a capstone subject, where emphasis is on developing the problem-solving and modeling skills required to effectively use quantitative methods to solve problems in contemporary business. After taking this unit, students will have worked on a large number of cases, where quantitative modelling provides significant insight. The cases will be drawn from all areas of business, including general management, finance and marketing. An objective of the course is to provide students with the expertise to operationalise quantitative solutions to real business problems in a hands-on fashion. Students will be expected to use computing resources, including the development of high level spreadsheet skills, and work frequently in syndicate teams. Some theory from the areas of statistics, operations management, finance and marketing will also be covered. |

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| Assessment: | Three syndicate group assignments, each 1500 words (20% each)3-hour final examination (40%) |
| 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: | <p>Students will develop a number of generic skills including:</p> <ul style="list-style-type: none"> # understanding the links between strategic, tactical and operational perspectives in problem solving # leading and participating in teams (including members from diverse cultural backgrounds), managing, persuading and influencing others # thinking critically about underlying theories, concepts, assumptions and arguments in business modelling # demonstrating the breadth of knowledge gained in an inter-disciplinary approach # applying advanced analysis, business communication and leadership skills in business and professional practice # developing the ability to exercise critical judgement, be capable of rigorous and independent thinking, be able to account for their decisions and adopt a problem solving approach # high level written report presentation skills |
| Related Course(s): | Master of Operations Research and Management Science |