BUSA90503 Business Analytics Applications

Credit Points:	37.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2015, Parkville This subject commences in the following study period/s: October, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 200 hours Total Time Commitment: Not available
Prerequisites:	

Subject	Study Period Commencement:	Credit Points:
BUSA90500 Business Analytics Foundations	March	37.5
BUSA90501 Advanced Business Analytics	June	37.5

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
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Subject Overview:	The primary focus of this subject is the application of data analytics in business contexts. Three of the components in this subject address common applications of business analytics: Finance Analytics, Marketing Analytics, and Supply Chain Analytics. The business case study introduced in the “Introduction to Business Analytics” subject is revisited in this subject so that students can view and find solutions to the same comprehensive business case with the benefit of the knowledge obtained over the course of study. Students will also be introduced to other contemporary applications of business analytics. **Finance Analytics** Quantitative analytics have become an invaluable part of managing financial institutions, not only for profitability but also for safeguarding the organization against risk. In this component students will be applying data analytic skills to finance applications. Topics include financial performance benchmarking; modelling and computation of financial risks; dynamic portfolio management; computational derivative pricing; and modelling fixed income securities. The focus of the component will be on both the theoretical development, and the practical implementation using contemporary data from the financial market. **Marketing Analytics** It has become increasingly important to know how marketing actions translate into revenue and profit growth. The tools that enable this translation are part of a tool-kit called “marketing analytics.” Marketing analytics is a technology-enabled and model-supported approach to

harness customer and market data to enhance marketing decision-making. This component provides students with (i) knowledge of marketing analytics, (ii) the ability to know which analytics tools to use for which marketing problems, (iii) the ability to use those tools to solve marketing problems, and (iv) the ability to influence marketing outcomes such as satisfaction, choice, loyalty, word of mouth, and customer referrals.

Supply Chain Analytics

Rapid advancements in technology (particularly the internet) combined with fast and cheap computing power has enable firms to radically transform their industries by developing business models and reengineering their supply chains. This component provides students with (i) knowledge of mathematical modelling and analytic tools relating to logistics and supply chain optimization problems, (ii) the ability to use these tools and techniques to analyse strategic, tactical and operational decisions pertaining to inventory management, facility location, logistics and other supply chain management related decisions and (iii) exposure to real world logistics and supply chain decisions through case studies.

Business Case Study

This component revisits the case study examined in the subject Introduction to Business Problems earlier in the course. The primary goal of this component is to use the analytics knowledge and skills obtained throughout the course to recalibrate solutions to the business problem in the case study. The secondary goal is to introduce students to some emerging applications in the form of a special topics component. These topics will vary depending on emerging trends.

Personal Effectiveness 3

This component builds upon Personal Effectiveness 1 and Personal Effectiveness 2 and will be partially integrated into the other components of Analytics Applications. This component is designed to help students develop the skills and knowledge required to effectively manage the early stages of their career. The “Personal Effectiveness Program” runs across the course and identifies specific needs of each individual student and then provides ongoing support, training, and opportunities to practice and perfect these skills. The program focuses on three core areas:

Communication skills: These skills include effective presentations, verbal communication, written communication, public speaking, and communicating technical material to non-technical audiences.
Career development skills: These skills include case practice, interview skills, CV writing, networking, and business etiquette.
Team skills: These skills include managing conflict, cultural awareness, giving and receiving feedback, and resilience.

Learning Outcomes:

Upon completion of this subject students should be able to:

Finance Analytics

1 Apply data analytics skills to the context of finance.
2 Understand the key challenges and appreciate the ambiguities that may be present in solving finance problems.
3 Possess literacy in the technical aspects of finance.

Marketing Analytics

1 Use marketing models and analyses to understand how marketing actions translate into revenue and profit growth.
2 Measure customer preferences using conjoint and choice models.
3 Segment markets of customers using a variety of segmentation methods and choose segments to target using a set of criteria.
4 Map customers’ perceptions of brands in a market, and translate the map into different positioning choices,
5 Price products using a variety of pricing methods, and optimize pricing of a product portfolio.
6 Model the impact of alternative marketing mixes on sales and profit, and optimise the mix, and optimally allocate marketing budgets across brands and segments.

Supply Chain Analytics

Business Case Study

1 Become familiar with the complexity of a significant business problem.
2 Identify the underlying business problem.
3 Demonstrate their knowledge and skills in solving a significant business problem.

	4 Understand the different, and often opposite, objective functions of a multitude of organisational stakeholders, and how those objective functions affect the performance of solutions to business problems. 5 Chart out an effective implementation plan for the solution to the business problem. 6 Integrate material from across the program of study to solve a business problem. 7 Become familiar with a variety of application areas such as talent analytics and public policy analytics 8 Develop skills in handling very large data sets (“big data”) **Personal Effectiveness 3** 1 Address case-based interviews. 2 Make effective public presentations. 3 Communicate technical material to a non-technical audience. 4 Work effectively in teams.
Assessment:	Finance Analytics Syndicate Assignment (equivalent of individual 1100 word assessment) Week 6 30% 4 x Individual in-class quizzes (150 words or equivalent each) Weeks 2 - 5 20% Final exam (individual, 1700 words or equivalent, hurdle requirement) Week 9 50% Marketing Analytics Syndicate presentation 1 (equivalent of individual 350 word assessment) Week 2 10% Syndicate presentation 2 (equivalent of individual 350 word assessment) Week 4 10% Class participation (attendance at lectures and workshops, peer and instructor evaluation of contribution to class learning) continuous 10% Written syndicate assignment (equivalent of individual 1100 word assessment) Week 7 30% Final exam (Individual, 1400 words or equivalent, hurdle requirement) Week 9 40% Supply Chain Analytics Syndicate assignment 1 (equivalent of individual 800 word assessment) Week 4 25% Syndicate assignment 2 (equivalent of individual 800 word assessment) Week 7 25% Final exam (Individual, 2000 words or equivalent, hurdle requirement) Week 9 50% Business Case Study Syndicate presentation (equivalent of individual 1200 word assessment) Week 7 35% Syndicate assignment (equivalent of individual 1400 word assessment) Week 6 45% Contribution to syndicate work (hurdle requirement; peer and instructor evaluation of contribution to syndicate work) continuous 15% Class participation (attendance at lectures and workshops, peer and instructor evaluation of contribution to class learning) continuous 10% Personal Effectiveness 3 Individual reflective journal (300 words or equivalent) Week 9 50% Individual presentation (as part of group presentations; equivalent of individual 500 word assessment) Weekly 40% Class participation (attendance at skills workshops, peer and instructor evaluation of contribution to class learning) continuous 10%
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