# BZ201

# DATA ANALYSIS

This sample unit outline is provided by CHC for prospective and current students to assist with unit selection.

Elements of this outline which may change with subsequent offerings of the unit include Content, Required Texts, Recommended Readings and details of the Assessment Tasks.

Students who are currently enrolled in this unit should obtain the outline for the relevant semester from the unit lecturer.

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| **Unit code** | BZ201 |
| **Unit name** | Data Analysis |
| **Associated higher education awards** | Associate Degree in Business<br>Bachelor of Business |
| **Duration** | One semester |
| **Level** | Intermediate |
| **Unit Coordinator** | Karen du Plessis |
| **Core/Elective** | Core - Associate Degree in Business<br>Core - Bachelor of Business |
| **Weighting** | Unit credit points: 10<br>Course credit points: 160 - Associate Degree in Business<br>240 - Bachelor of Business |
| **Student workload** | **Face to face on site**      **External**<br><br>Contact hours 39    Engagement with study materials 90<br>Reading, study, and preparation 59    Assignment preparation 60<br>Assignment preparation 52    TOTAL 150<br>TOTAL 150<br><br>Students requiring additional English language support are expected to undertake an additional 1 hour per week. |
| **Delivery mode** | Face to face on site<br>External |
| **Prerequisites/ Corequisites/ Restrictions** | Prerequisite: BZ105 Information Systems for Business |
| **Specialist resource requirements** | Practical applications in this unit require Microsoft Excel software and the Megastat add-in for Excel |
| **Prescribed text(s)** | Selvanathan, A. Selvanathan, S., & Keller, G. (2011). *Business statistics: Abridged - Australia New Zealand* (5th ed.).South Melbourne, VIC : Cengage Learning. |

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| **Recommended readings** | **Books**<br><br>De Feo, J., & Barnard, W. (2004). *Juran Institute's Six Sigma breakthrough and beyond.* New York : McGraw-Hill.<br><br>Deming, W. E. (1993). *The new economics: For industry, government, education* (2nd ed.). MA: MIT Press.<br><br>Gonick, L., & Smith, W. (1993). *Cartoon guide to statistics.* New York: HarperCollins Books.<br><br>Nils-Goran, O., Jan, R., & Magnus, W. (1999). *Performance drivers – A practical guide to using the balanced scorecard.* New York : Wiley.<br><br>Wheeler, D. J. (2000). *Understanding variation: The key to managing chaos* (2nd ed.). USA: SPC Press.<br><br>In addition to the resources above, students should have access to a Bible, preferably a modern translation such as *The Holy Bible: The New International Version 2011* (NIV 2011) or *The Holy Bible: New King James Version* (NKJV).<br><br>These and others translations may be accessed free on-line at http://www.biblegateway.com. The Bible app from LifeChurch.tv is also available free for smart phones and tablet devices. |
| **Content** | 1.   Overview and introduction to Excel;  What is statistics?<br><br>2.   Graphical descriptive methods<br><br>3.   Art and science of graphical presentations<br><br>4.   Numerical descriptive measures<br><br>5.   Probability<br><br>6.   Data collection and sampling<br><br>7.   Random variables and discrete probability distributions<br><br>8.   Continuous probability distributions<br><br>9.   Statistical inference: an introduction<br><br>10.   Sampling distributions<br><br>11.   Estimation: Describing a single population<br><br>12.   Simple Linear regression and correlation<br><br>13.   Overview of Six Sigma and the balanced scorecard |

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| Learning outcomes | On completion of this unit, students will have demonstrated that they can: |
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| | 1. Discuss the steps involved in the identification and investigation of a business problem; |
| | 2. Independently create and interpret visual representations of data; |
| | 3. Calculate and independently interpret measures of central tendency and dispersion, and apply them in routine business and management problems; |
| | 4. Compute probabilities for mutually exclusive events, dependent and independent events and apply these to routine problems in business and management; |
| | 5. Describe the properties of the binomial, Poisson and normal distributions and independently apply them to routine problems in business and management; |
| | 6. Discuss statistical inferences based on both single and multiple random samples; |
| | 7. Describe the correlation between two sets of variables; |
| | 8. Describe the history of and concepts underlying the Six Sigma and Balanced Scorecard approaches to identifying and managing routine problems in business and management; |
| | 9. Discuss the Biblical Christian perspective on business with particular emphasis on ethical issues concerning the use of data in business and management; and |
| | 10. Communicate at an appropriate tertiary standard: with special attention to design elements, grammar, usage, logical relations, style, presentation and referencing. |
| **Assessment tasks** | **Task 1:** Mid-semester examination |
| | Word Length/Duration: 2 hours |
| | Weighting: 20% |
| | Learning Outcomes: 1-4 |
| | Assessed: Week 7 |
| | **Task 2:** Ten weekly review exercises |
| | Word Length/Duration: 300 words (plus calculations) each |
| | Weighting: 30% |
| | Learning Outcomes: 1-7, 9, 10 |
| | Assessed: Weeks 2-11 |
| | **Task 3:** Final examination |
| | Word Length/Duration: 3 hours |
| | Weighting: 50% |
| | Learning Outcomes: 1-9 |
| | Assessed: Week 15 |