BUS105 BUSINESS STATISTICS T318 - Brief

All information contained within this Subject Outline applies to all students enrolled in the trimester as indicated.

1. General Information

1.1 Administrative Details

Associated HE Award(s)	Duration	Level	Subject Coordinator
B Bus (Accg); B Bus (Mgt & Finance) Dip Accg; Dip Mgt	1 trimester	Level 1	Matt MacCallum matthew.maccallum@koi.edu.au P: 92833583 (Ext.156) L: Level 1, 545 Kent St. Consultation: via Moodle or by appointment.

1.2 Core / Elective

This is a core subject for the above courses.

1.3 Subject Weighting

Indicated below is the weighting of this subject and the total course points.

Subject Credit Points	Total Course Credit Points
4	Dip Accg 32; Dip Mgt 32; BBus (Accg) 96; BBus (Mgt & Finance) 96

1.4 Student Workload

Indicated below is the expected student workload per week for this subject

No. timetabled hours/week*	No. personal study hours/week**	Total workload hours/week***
4 hours/week (2 hour Lecture + 2 hour Tutorial)	6 hours/week	10 hours/week

* Total time spent per week at lectures and tutorials
** Total time students are expected to spend per week in studying, completing assignments, etc.
*** Combination of timetable hours and personal study.

1.5 Mode of Delivery On-campus

1.6 Pre-requisites Nil

Numerical literacy, while not a pre-requisite, is an advantage for this subject. As an example when giving a lecture numerical information may appear on a screen and it will be an advantage if you are familiar with this type of information. The skills that are useful are an understanding of formulas and prior experience with using a calculator. Those who did poorly in mathematics at school may need to spend an extra hour per week on the subject. It is advisable to work closely with your tutor to overcome any fear of mathematics or of how to use a calculator.

1.7 General study and resource requirements:

- Students are expected to attend classes with the required textbook and to read specific chapters prior to the tutorials. Students should read this material before coming to class to improve their ability to participate in the weekly activities.
- Students will require access to the internet and their KOI email and should have basic skills in word processing software such as MS Word, spreadsheet software such as MS Excel and visual presentation software such as MS PowerPoint.

- Computers and WIFI facilities are extensively available for student use throughout KOI. Students are encouraged to make use of the campus Library for reference materials.

Resource requirements specific to this subject: Students should have a non-programmable scientific calculator. Applications in smart phones will not be sufficient to perform the required calculations. Smartphones and smartwatches will not be allowed in the final exam. As this subject requires the use of statistical software packages to analyse numerical data, students should also have access to and at least a basic level of skill in these areas.

2 Academic Details

2.1 Overview of the Subject

This subject is embedded in a business context and uses:
- descriptive methods to graphically and numerically summarise data sets;
- inferential techniques on sample data to determine characteristics of the parent populations;
- regression techniques to predict future outcomes.

The subject provides an introduction to basic statistical concepts and techniques and a working knowledge of a number of inferential procedures to solve statistical problems in a business context. The subject covers the use of techniques such as hypothesis tests and to develop evidence based predictions that can be used when making business decisions.

2.2 Graduate Attributes for Undergraduate Courses

Graduates of the *Bachelor of Business (Accounting),* and the *Bachelor of Business (Management and Finance)* courses from King's Own Institute will gain the graduate attributes expected from successful completion of a Bachelor's degree under the Australian Qualifications Framework (2nd edition, January 2013). Graduates at this level will be able to apply an advanced body of knowledge in a range of contexts for professional practice or scholarship and as a pathway for further learning.

King's Own Institute's key generic graduate attributes for a bachelor's level degree are summarised below:

	KOI Bachelor Degree Graduate Attributes	**Detailed Description**
	Knowledge	Current, comprehensive and coherent knowledge
	Critical Thinking	Critical thinking and creative skills to analyse and synthesise information and evaluate new problems
	Communication	Communication skills for effective reading, writing, listening and presenting in varied modes and contexts and for transferring knowledge skills to others
	Information Literacy	Information and technological skills for accessing, evaluating, managing and using information professionally
	Problem Solving Skills	Skills to apply logical and creative thinking to solve problems and evaluate sources
	Ethical and Cultural Sensitivity	Appreciation of ethical principles, cultural sensitivity and social responsibility, both personally and professionally
	Teamwork	Leadership and teamwork skills to collaborate, inspire colleagues and manage responsibly with positive results
	Professional Skills	Professional skills to exercise judgement in planning, problem solving and decision making

Across the course, these skills are developed progressively at three levels:

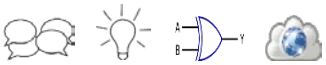
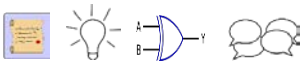
- **Level 1 Foundation –** Students learn the basic skills, theories and techniques of the subject and apply them in basic, stand-alone contexts.
- **Level 2 Intermediate –** Students further develop skills, theories and techniques of the subject and apply them in more complex contexts, beginning to integrate the application with other subjects.

- **Level 3 Advanced** – Students have a demonstrated ability to plan, research and apply the skills, theories and techniques of the subject in complex situations, integrating the subject content with a range of other subject disciplines within the context of the course.

2.3 Subject Learning Outcomes

This is a Level 1 subject.

Listed below, are key knowledge and skills students are expected to attain by successfully completing this subject:

Subject Learning Outcomes	Contribution to Course Graduate Attributes
a) Identify practical business situations to which statistical techniques are applicable	
b) Present, summarise and manipulate sample data, make basic statistical inferences and interpret the results in a business context	
c) Use one or more current statistical software packages for basic data analysis purposes	
d) Apply skills in identifying problems and solution strategies	

2.4 Subject Content and Structure

Below are details of the subject content and how it is structured, including specific topics covered in lectures and tutorials. Reading refers to the text unless otherwise indicated.

Weekly Planner:

Week (beginning)	Topic covered in each week's lecture	Reading(s)	Expected work
1 05 Nov	Introduction and simple questions from topics 2,3,4 and 5.	Textbook section 1.3,3.1,7.4,8.3 Week 1 & 2 handout	Tutorial exercises
2 12 Nov	Graphical summary of Data Types of data Displaying data Data collection Sampling	Textbook Chapter 1 and 2 Week 1 & 2 handout	**Weekly quiz**
3 19 Nov	Discrete probability distributions Expectation and variance of a general random variable, Binomial and Poisson probabilities to be determined by cumulative tables, formula and software	Chs 3 & 4, week 3 handout	**Weekly quiz**
4 26 Nov	Numerical summary of data including z scores Basic properties of normally distributed variables	Ch 5, week 4 handout	**Weekly quiz**
5 03 Dec	Continuous probability distributions; The Normal Distribution. The Sampling distribution of the mean.	Chs 6 & 7	**Weekly quiz**
6 10 Dec	Mid-Trimester Test held in the week 6 lecture	Tutorial handout	**Mid-trimester exams**
7 17 Dec	Inference Chi squared goodness of fit and chi squared test of independence	Ch 12, week 7 handout	**Weekly quiz**

23 Dec 2018 – 06 Jan 2019	**Mid-trimester break**		
8 07 Jan	Inference Comparing means using 2 sample t test of means	Ch 10, week 8 handout	Tutorial exercises
9 19 Jan	Inference Estimate the mean of a population by: confidence interval using the z distribution confidence interval using the t distribution Estimate the proportion of a population	Ch 8, week 9 handout	**Weekly quiz** **Deferred Mid Trimester Exams for all subjects** - see Section 2.6 below for more information
10 21 Jan	Inference Hypothesis tests concerning the mean of a population: Hypothesis test concerning the proportion of a population. Connection of confidence intervals and hypothesis tests Type I error and Type II error p-value of a test	Ch 9, week 10 handout	**Weekly quiz** **Computing Assignment**
11 28 Jan	Bivariate Data Scatterplots – linear and non-linear relationships Measures of association Coefficient of determination Equation for line or parabola of best fit (calculator and software output) Residual analysis Interpreting software output to produce o confidence intervals o prediction intervals hypothesis tests for significance of the relationship	Chapter 13	Tutorial exercises
12 04 Feb	Introductory investigation of relationships (multiple linear regression including confidence intervals and hypothesis tests)	Chapter 14	**Weekly quiz**
13 11 Feb	Study Review Week		
14 18 Feb	Final Exam Week	Please see Exam Timetable for exam date, time and location	
15 25 Feb	Student Vacation begins Enrolments for T119 open		
16 04 Mar	Results Released 05 Mar 2019 Certification of Grades 08 Mar 2019		
T119 begins 11 Mar 2019			
1 11 Mar	Week 1 of classes for T119 **Friday 08 Mar 2019 – Review of Grade Day for T318** – see Sections 2.6 and 3.6 below for more information.		

2.7 Teaching Methods/Strategies

Briefly described below are the teaching methods/strategies used in this subject:

- *On-campus lectures* (2 hours/week) are conducted in seminar style and address the subject content, provide motivation and context and draw on the students' experience and preparatory reading.
- *Tutorials* (2 hours/week) include class discussion of case studies and research papers, practice sets and problem-solving and syndicate work on group projects. Tutorial participation is an essential component of the subject and contributes to the development of graduate attributes (see section 2.2 above). It is intended that specific tutorial material such as case studies, recommended readings, review questions etc. will be made available each week in Moodle.
- *Online* teaching resources include class materials, readings, model answers to assignments and exercises and discussion boards. All online materials for this subject as provided by KOI will be found in the Moodle page for this subject. Students should access Moodle regularly as material may be updated at any time during the trimester
- *Other contact* - academic staff may also contact students either via Moodle messaging, or via email to the email address provided to KOI on enrolment.

2.8 Student Assessment

Provided below is a schedule of formal assessment tasks and major examinations for the subject.

Assessment Type	When assessed	Weighting	Subject Learning Outcomes Assessed
Online Quizzes	Weeks 2, 3, 4, 5, 7, 9, 10, 12	15%	a, b, c, d
Mid-trimester test	Week 6	10%	a, b, c
Computing assignment	Week 10	25%	a, b, c, d
Final examination (2 hours)	Final Exam Period	50%	a, b, c, d

Requirements to Pass the Subject:

To gain a pass or better in this subject, students must gain a *minimum of 50%* of the total available subject marks.

2.9 Prescribed and Recommended Readings

Prescribed Text:

Black, K., Asafu-Adjaye, J., Burke, P., Khan, N., King, G., Perera, N., Papadimos, A., Sherwood, C., Wasimi, S. A. and Verma, R., 2016. *Australasian business statistics*. 4th ed. Milton: John Wiley & Sons.