BUS105 BUSINESS STATISTICS T325 SO BRIEF

All information in the Subject Outline is correct at the time of approval. KOI reserves the right to make changes to the Subject Outline if they become necessary. Any changes require the approval of the KOI Academic Board and will be formally advised to those students who may be affected by email and via Moodle.
Information contained within this Subject Outline applies to 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	Matthew Maccallum matthew.maccallum@koi.edu.au L: L7-11 York 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 Classes will be face-to-face or hybrid. Certain classes will be online (e.g., special arrangements).

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.

1.8 Academic Advising

Academic advising is available to students throughout teaching periods including the exam weeks. As well as requesting help during scheduled class times, students have the following options:

- Consultation times: A list of consultation hours is provided on the homepage of Moodle where appointments can be booked.
- Subject coordinator: Subject coordinators are available for contact via email. The email address of the subject coordinator is provided at the top of this subject outline.
- Academic staff: Lecturers and Tutors provide their contact details in Moodle for the specific subject. In most cases, this will be via email. Some subjects may also provide a discussion forum where questions can be raised.
- Head of Program: The Head of Program is available to all students in the program if they need advice about their studies and KOI procedures.
- Vice President (Academic): The Vice President (Academic) will assist students to resolve complex issues (but may refer students to the relevant lecturers for detailed academic advice).

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 achieve 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 from their major area of study in a range of contexts for professional practice or scholarship and as a pathway for further learning.

King's Own Institute's 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 and skills to a variety of audiences
	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

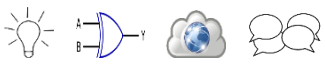
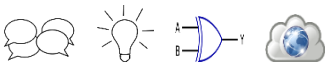
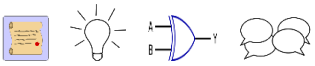
Across the course, these skills are developed progressively at three levels:

- **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 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 as listed in Moodle
Week 1 27 Oct	Introduction to Statistics and simple questions from topics 2, 3, 4, 5.	Textbook Ch 1. 1.3,3.1,7.4,8.3	**Tutorial Exercise**
Week 2 03 Nov	Graphical summary of data using Excel Types of data Displaying data Data collection Sampling	Textbook Ch.2	1. Tutorial Exercise 2. Weekly in class Quiz
Week 3 10 Nov	Numerical Summary of data, using calculator and Excel	Ch 3	1. Tutorial Exercise 2. Weekly in class Quiz
Week 4 17 Nov	z scores Normal Distribution Basic properties of normally distributed variables	Ch. 6	1. Tutorial Exercise 2. Weekly in class Quiz
Week 5 24 Nov	Continuous probability distributions; The Normal distribution. Central Limit Theorem The Sampling distribution of the mean Sampling distribution of the sample proportion	Chs. 6, 7	1. Tutorial Exercise 2. Weekly in class Quiz
Week 6 01 Dec	Review and Mid trimester test In the week 6 lecture		Mid trimester exam In the week 6 lecture
Week 7 08 Dec	Inference Estimate the mean of a population by: Confidence interval using the z and t distribution Estimate the proportion of a population.	Ch. 8	1. Tutorial Exercise 2. Weekly in class Quiz
Week 8 15 Dec	Hypothesis Testing for one Population mean and Proportion	Ch. 9	1. Tutorial Exercise 2. Weekly in class Quiz
Week 9 05 Jan	Hypothesis Testing for Two Population Mean (Two Sample t Test and Paired t Test)	Ch. 10	1. Tutorial Exercise 2. Weekly in class Quiz
Week 10 12 Jan	Inference Chi squared test of independence.	Ch. 12	Assessment 3 due
Week 11 19 Jan	Regression Analysis Scatterplots- linear and non-linear relationships Hypothesis tests for significance of the relationship Using and Interpreting software output to produce Confidence intervals and perform Hypothesis Testing	Ch13	1. Tutorial Exercise 2. Weekly in class Quiz

	Measures of association (r) Coefficient of determination R2 Equation for line of best fit (calculator and software output)		
Week 12 27Jan (Tue)	Residuals of regression analysis Review	Ch. 13	1. Tutorial Exercise 2. Review Sample Exam
Week 13 02 Feb	Study Review Week and Final Exam Week		
Week 14 09 Feb	Examinations Continuing students - enrolments for T126 open	Please see exam timetable for exam date, time and location	
Week 15 16 Feb	Student Vacation begins New students - enrolments for T126 open		
Week 16 23 Feb	• Results Released • Review of Grade Day for T325 – see Sections 2.6 and 3.2 below for relevant information. • Certification of Grades NOTE: More information about the dates will be provided at a later date through Moodle/KOI email.		
T126 2 Mar 2026			
Week 1 02 Mar	Week 1 of classes for T126		

2.5 Teaching Methods/Strategies

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

- *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; practice sets and problem-solving and syndicate work on group projects. Tutorials often include group exercises and so contribute to the development of teamwork skills and cultural understanding. Tutorial participation is an essential component of the subject and contributes to the development of many of the graduate attributes (see section 2.2 above). Tutorial participation contributes towards the assessment in many subjects (see details in Section 3.1 for this subject).
  During the last 40 minutes of the Tutorial, you will have a Quiz which corresponds to the topic worked during the Tutorial. The duration of the Quiz is 20 minutes. There will be Two questions or more. Your Tutor will mark the Quiz out of 2 in the last 20 minutes. Feedback to the Quiz will be given in the next week's tutorial, where you will have the opportunity to correct any mistake (s), as per the feedback.
  There are four in class Quizzes before the Mid Term Exam and four in class Quizzes after this exam
- *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.

2.6 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
Assessment 1: In class Quizzes	Weeks 2, 3, 4, 5, 7, 8, 9, 11	10%	a, b, c, d
Assessment 2: Mid-trimester test	In the Week 6 lecture	25%	a, b, c
Assessment 3: Computing assignment	Due Week 10	25%	a, b, c, d
Assessment 4: Final examination On-campus: 2 hours + 10 mins reading time	Final Exam Period	40%	a, b, c, d

2.7 Prescribed and Recommended Readings

Provided below, in formal reference format, is a list of the prescribed and recommended readings.

Prescribed Text:

Black, K., Asafu-Adjaye, J., Burke, P., Khan, N., King, G., Perera, N., Papadimos, A., Sherwood, C. and Wasimi, S. A., 2024. *Business analytics and statistics*. 2nd ed. Milton, QLD: John Wiley & Sons.

Recommended Readings:

Cole, D. and de Roure, C. 2020. Managing the Risks of Holding Self-securitisations as Collateral. *RBA Bulletin*, September 2020, pp. 1-10.

Evans, R., Rosewall, T. and Wong, A., 2020. The Rental Market and COVID-19. *RBA Bulletin*, September 2020, pp. 75-84.

Guttmann, R., Lawson, D. and Rickards, P. 2020. The Economic Effects of Low Interest Rates and Unconventional Monetary Policy. *RBA Bulletin*, September 2020, pp. 21-30

Islam, M., 2020. Data Analysis: Types, Process, Methods, Techniques and Tools. *International Journal on Data Science and Technology*, 6(10).

King, S. and Sharifi Far, S., 2025. Teaching Data Science to Diverse Learners: A Hybrid and Interdisciplinary Approach. *Teaching Statistics*.

Lenning, J. (2020) 'Ready for Big Changes? Dynamic Array Functions: Excel Like You've Never Seen It', California CPA, 88(9), pp. 10–12.

Lenning, J. (2021) 'λ Build Your Own Excel Function with LAMBDA User Defined Functions', California CPA, 89(9), pp. 10–14

Morris, A., Mitchell, E. and Ramia, G., 2020. Why coronavirus impacts are devastating for international students private rental housing. *The Conversation*, 7 April 2020.

Richard Finlay, R., Seibold, C. and Xiang, M. 2020. Government Bond Market Functioning and COVID-19. *RBA Bulletin*, September 2020, pp. 11-20

Richards,T., Thompson, C. and Dark, C. 2020 Retail Central Bank Digital Currency: Design Considerations, Rationales and Implications. *RBA Bulletin*, September 2020, pp. 31-47.

Tolios, G., 2025. *Statistical Hypothesis Testing with Python* [online]

Williams, K.L., 2023. Using ChatGPT with Excel. *Journal of Accountancy*, *235*(4), pp.40-45.

Useful Websites:

The following websites are useful sources covering a range of information useful for this subject. However, most are not considered to be sources of Academic Peer Reviewed theory and research. If your assessments require ***academic peer reviewed journal articles*** as sources, you need to access such sources using the Library database, Ebscohost, or Google Scholar. Please ask in the Library if you are unsure how to access Ebscohost. Instructions can also be found in Moodle.

- Khan academy - You can search the webpage for any of topics in the course and get videos, notes and practice questions https://www.khanacademy.org Many textbooks recommend that students understand confidence intervals using simulation and khan academy does this well. https://www.khanacademy.org/math/ap-statistics/estimating-confidence-ap/introductionconfidence-intervals/v/confidence-interval-simulation .

- Australian Bureau of Statistics – Understanding Statistics website. The Understanding Statistics pages are here to support your statistical literacy development and assist you understand, evaluate and communicate statistical data and information. http://www.abs.gov.au/websitedbs/a3121120.nsf/home/understanding%20statistics

  A Policymaker's Primer on Education Research – Understanding Statistics Tutorial. The USA based Education Commission of the States (ECS) and Mid-continent Research for Education and Learning (McREL) have developed this website, aimed primarily at education research, but can provide good explanations of elements of the subject's content. https://files.eric.ed.gov/fulltext/ED518626.pdf