STAT20029 *Statistics for Managerial Decisions*
Term 2 - 2021

Profile information current as at 20/04/2024 10:36 pm

All details in this unit profile for STAT20029 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

Corrections

Unit Profile Correction added on 24-08-21
Due to COVID-19 restrictions, the STAT20029 Standard Examination for Term 2, 2021 is replaced by Take Home Exam.

The 24 hour duration is a strict deadline. Submission of this assessment will not be accepted once this deadline has passed.

Further information relating to this Take Home Exam can be found on STAT20029 Moodle website.

General Information

Overview

In this unit you will examine statistics, with particular focus on applications to managerial decision making. You will use statistics techniques to make informed decisions in uncertain environments within the fields of business and accounting. You will analyse and interpret data, trends and patterns as well as make inferences and use probability theory to estimate risks. Other important topics of this unit include probability and forecasting.

Details

Career Level: *Postgraduate*
Unit Level: *Level 8*
Credit Points: *6*
Student Contribution Band: *7*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

Anti-requisite: STAT20028.
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 2 - 2021

- Brisbane
- Melbourne
- Online
- Sydney

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses
Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses
Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Online Quiz(zes)**
Weighting: 20%
2. **Written Assessment**
Weighting: 20%
3. **Examination**
Weighting: 60%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Unit Coordinator reflections and student feedback

Feedback

The quizzes and exam are difficult if students have not practised similar style questions.

Recommendation

Add more tutorial questions and inform students of the importance of practice in preparing for quizzes and exam.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Analyse and work with data in a statistical framework
2. Interpret data to make informed decisions
3. Estimate the probabilities of various scenarios using statistics techniques
4. Make statistical inferences based on sample observations
5. Capture trends and make future projections
6. Compare the implications of alternative strategies in terms of risks and expectations.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level • Introductory Level • Intermediate Level • Graduate Level ◦ Professional Level ◦ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Online Quiz(zes) - 20%	•	•				
2 - Written Assessment - 20%	•	•	•	•	•	•
3 - Examination - 60%			•	•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
1 - Knowledge	◦	◦	◦	◦	◦	◦
2 - Communication		◦		◦		◦
3 - Cognitive, technical and creative skills	◦		◦	◦	◦	

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
4 - Research		◦		◦	◦	
5 - Self-management						◦
6 - Ethical and Professional Responsibility						◦
7 - Leadership						◦
8 - Aboriginal and Torres Strait Islander Cultures						

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Online Quiz(zes) - 20%	◦		◦		◦			
2 - Written Assessment - 20%	◦	◦	◦	◦	◦	◦	◦	
3 - Examination - 60%	◦		◦		◦			

Textbooks and Resources

Textbooks

STAT20029

Prescribed

Business Analytics and Statistics
Edition: 1st (2019)
Authors: Ken Black et al.
Wiley
Milton , Queensland , Australia
ISBN: 9780730363330
Binding: Paperback

Additional Textbook Information
Both paper and eBook versions can be purchased at the CQUni Bookshop here: http://bookshop.cqu.edu.au (search on the Unit code).

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microsoft Excel (or equivalent)

Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

Teaching Contacts

Santoso Wibowo Unit Coordinator
s.wibowo1@cqu.edu.au

Schedule

Week 1 - 12 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Statistics	Study Guide (SG) Module 1; Set Text (ST) Chapter 1	

Week 2 - 19 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic
Presenting Data	SG 2; ST Chapter 2, KaddStat is optional and will never be examined in this unit.	

Week 3 - 26 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic
Numerical Descriptive Measures	SG 3; ST Chapter 3	Fortnightly Quiz 1

Week 4 - 02 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Probability	SG 4; ST Chapter 4	

Week 5 - 09 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Discrete Distributions	SG 5; ST Chapter 5	Fortnightly Quiz 2

Vacation Week - 16 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 23 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Continuous Distributions	SG 6; ST Chapter 6	

Week 7 - 30 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Sampling Distributions	SG 7; ST Chapter 7, Sampling has been covered earlier.	Fortnightly Quiz 3

Week 8 - 06 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Confidence interval estimation	SG 8; ST Chapter 8 (exclude section 8.4 which is not in syllabus).	

Week 9 - 13 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic

Hypothesis Testing	SG 9; ST Chapter 9 (exclude sections 9.6 and 9.7) and Chapter 10 (exclude section 10.5)	Fortnightly Quiz 4

Week 10 - 20 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Chi-square tests	SG 10; ST Chapter 12	**Assignment 2** Due: Week 10 Friday (24 Sept 2021) 11:45 pm AEST

Week 11 - 27 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Linear regression	SG 11; ST Chapter 13 but exclude 13.6 and 13.7	Fortnightly Quiz 5

Week 12 - 04 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic
Time series forecasting and index numbers	SG 12; ST Chapter 15 but exclude 15.4	

Review/Exam Week - 11 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 18 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 Assignment 1

Assessment Type
Online Quiz(zes)

Task Description
In Assignment 1, there will be five online quizzes. They will be held in weeks 3, 5, 7, 9 and 11 and, will be available in WileyPlus. Link to appropriate WileyPlus website is only available through Moodle Unit Website. Each quiz will start at 8:00am on Monday of the week and will end on Sunday of that week at 11:00pm. No extension of the deadline is possible under any circumstances. Each quiz is worth 4 marks and there will be eight questions in each quiz. A maximum of 3 attempts will be allowed for each question, and there is no penalty for multiple attempts.

Number of Quizzes
5

Frequency of Quizzes
Fortnightly

Assessment Due Date

Quizzes will be held in weeks 3, 5, 7, 9 and 11

Return Date to Students

Marks will be released immediately after each quiz

Weighting
20%

Assessment Criteria
Each quiz is worth 4 marks and there will be eight questions in each quiz. A maximum of 3 attempts will be allowed for each question, and there is no penalty for multiple attempts.
Only correct answers will get full marks. There is no mark for procedure.

Referencing Style

- Harvard (author-date)

Submission
No submission method provided.

Learning Outcomes Assessed

- Analyse and work with data in a statistical framework
- Interpret data to make informed decisions

Graduate Attributes

- Knowledge
- Cognitive, technical and creative skills
- Self-management

2 Assignment 2

Assessment Type
Written Assessment

Task Description
This is a written assessment task. There will be five questions and you are required to provide written answers to all those questions. The answers can be typed or hand-written, but where output from Excel (or similar) is asked, you must use Excel (or similar). No marks will be given for graphs which are hand-drawn. Answers to all assignment 2 quesions must be submitted as a single file in .doc, .docx, .pdf or .rtf format only and the total file size cannot exceed 100 MB. Files submitted in zipped form or any other format will not be accepted. Hand written material can be scanned and Excel output can be copied and pasted in the single document.

Assessment Due Date
Week 10 Friday (24 Sept 2021) 11:45 pm AEST
All answers should be submitted online as a single file in .doc, .docx, .pdf or .rtf format only. No zipped file will be accepted. File size cannot exceed 100 MB

Return Date to Students
Week 12 Friday (8 Oct 2021)

Weighting
20%

Assessment Criteria
Part marks will be given for conceptual understanding and correct procedures. Full marks cannot be obtained without proper description and working of the procedure.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
All answers should be submitted online as a single file in .doc, .docx, .pdf or .rtf format only. No zipped file will be accepted. File size cannot exceed 100 MB

Learning Outcomes Assessed

- Analyse and work with data in a statistical framework
- Interpret data to make informed decisions
- Estimate the probabilities of various scenarios using statistics techniques
- Make statistical inferences based on sample observations
- Capture trends and make future projections
- Compare the implications of alternative strategies in terms of risks and expectations.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management

- Ethical and Professional Responsibility
- Leadership

Examination

Outline
Complete an invigilated examination.

Date
During the examination period at a CQUniversity examination centre.

Weighting
60%

Length
180 minutes

Minimum mark or grade
40% (Minimum 24 out of 60 marks)

Exam Conditions
Open Book.

Materials
Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).
Calculator - all non-communicable calculators, including scientific, programmable and graphics calculators are authorised

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem