PSYC12047 *Introduction to Data Analysis*
Term 2 - 2021

Profile information current as at 12/05/2024 01:05 pm

All details in this unit profile for PSYC12047 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.

General Information

Overview

This unit will introduce you to preliminary concepts in statistics. The material covered in this unit will allow you to do research as part of your undergraduate and/or professional career/s. The goal of this unit is to provide you with the skills to perform basic statistical analyses (e.g., t-tests, ANOVA, chi-square, linear regression, etc.), as they apply in the health, human, and social sciences. It is a recommendation of enrolment in the unit that you have competency at secondary-level mathematics. Students lacking competency at secondary level (including basic algebra) are encouraged to contact the Academic Learning Centre (ALC) to discuss their options before enrolling in this unit.

Details

Career Level: *Undergraduate*
Unit Level: *Level 2*
Credit Points: *6*
Student Contribution Band: *7*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

There are no requisites for this unit.
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

- Adelaide
- Bundaberg
- Cairns
- Online
- Rockhampton
- Townsville

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 Undergraduate 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: 40%
2. **Portfolio**
Weighting: 50%
3. **Written Assessment**
Weighting: 10%

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 Student Evaluation

Feedback

Several students, who reported undertaking this second-year unit before the first-year introductory psychology unit, Foundations of Psychological Research (PSYC11012), reported difficulty understanding some research methods and design concepts, which underpin the statistical analyses covered in this unit.

Recommendation

The prerequisites for enrolment in this unit will be reviewed, as part of a larger review of the undergraduate psychology course. Extra reading material will also be provided via the Moodle site, to better support students who need information on research methods and design principles.

Feedback from Student Evaluation & Email / Tutorial Communication

Feedback

While the nature of the assessment tasks for the unit were well-received by students, some report challenges 'changing pace,' in terms of the processes and requirements for the final assessment task (because this requires them to complete a computer-based analysis, where previous assessments involve hand calculation analyses and theoretical quizzes).

Recommendation

The structure of tutorial activities will be revised to employ a more 'hands-on' approach, in order to better familiarise students with the computer program used for this assessment.

Feedback from Student Email / Tutorial Communication

Feedback

Mixed feedback about the textbook was given. Some students reported liking the 'light' level of detail it goes into and for its ease of reading, but others reported that they either disliked the text or found that they did not use it often (because they found the lecture presentations easier to follow or more intuitive).

Recommendation

Alternative textbook options (e.g., another textbook, compiled reading list etc.) will be explored.

Feedback from Moodle / Email / Tutorial Communication with Students

Feedback

Several students (especially Mac users) reported having issues downloading and installing the freeware (software, PSPP) needed to complete their final assessment task.

Recommendation

Options for more user-friendly freeware (e.g., Jamovi) will be explored for students to use and complete their final assessment task.

Unit Learning Outcomes

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

1. Explain and evaluate different statistical methods and procedures
2. Apply statistical procedures, methods and calculations
3. Translate statistical output into a summary, formatted in APA style.

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**
1 - Online Quiz(zes) - 40%	●		●
2 - Portfolio - 50%		●	
3 - Written Assessment - 10%	●	●	●

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes		
	1	**2**	**3**
1 - Communication	●		●
2 - Problem Solving	●	●	
3 - Critical Thinking		●	
4 - Information Literacy	●		●
5 - Team Work			
6 - Information Technology Competence		●	●
7 - Cross Cultural Competence			
8 - Ethical practice			
9 - Social Innovation			
10 - 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**	**9**	**10**
1 - Online Quiz(zes) - 40%		●		●						
2 - Portfolio - 50%		●				●				
3 - Written Assessment - 10%	●		●	●		●				

Textbooks and Resources

Textbooks

There are no required textbooks.

Additional Textbook Information
Students will need to download a freeware statistics program (e.g., Jamovi) for use in their final assessment task and lab exercises.
A compiled reading list (rather than a textbook) will be made available as the prescribed readings for this unit.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Jamovi (free statistics analysis program)

Referencing Style

All submissions for this unit must use the referencing style: [American Psychological Association 7th Edition (APA 7th edition)](#)
For further information, see the Assessment Tasks.

Teaching Contacts

Lisa Lole Unit Coordinator
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Schedule

Week 1 - 12 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Data Analysis	An Introduction to Psychological Statistics (University of Missouri-St. Louis) **Chapter 1**: Introduction	

Week 2 - 19 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic
Describing our Variables	An Introduction to Psychological Statistics (University of Missouri-St. Louis) **Chapter 2**: Describing Data using Distributions and Graphs **Chapter 3**: Measures of Central Tendency and Spread	

Week 3 - 26 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic

Module/Topic	Chapter	Events and Submissions/Topic
Z-scores, Percentiles, & Probability	An Introduction to Psychological Statistics (University of Missouri-St. Louis) **Chapter 4**: z-score and the Standard Normal Distribution **Chapter 5**: Probability **Chapter 6**: Sampling Distributions	**Online Quiz** Due: Week 3 Friday (30 July 2021) 9:00 am AEST

Week 4 - 02 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Data Relationships & Reporting Our Results	**Publication Manual of the American Psychological Association (7th Edition, 2020)** **Chapter 2:** *Paper Elements and Format*, pp. 47-55; 60. **Chapter 3:** *Journal Article Reporting Standards*, pp. 71-73; 78-81; 86-89. **Chapter 6:** *Mechanics of Style*, pp. 159; 178-188.	**Calculation Portfolio** Due: Week 4 Friday (6 Aug 2021) 9:00 am AEST

Week 5 - 09 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Hypothesis testing	An Introduction to Psychological Statistics (University of Missouri-St. Louis) **Chapter 7**: Introduction to Hypothesis Testing	**Online Quiz (#2)** DUE: Week 5 Friday (13 Aug. 2021) 9:00 am AEST

Vacation Week - 16 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
-	-	-

Week 6 - 23 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Correlation	An Introduction to Psychological Statistics (University of Missouri-St. Louis) **Chapter 12**: Correlations	**Online Quiz (#3)** DUE: Week 6 Friday (27 Aug. 2021) 9:00 am AEST

Week 7 - 30 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Simple regression & Partial correlation	An Introduction to Psychological Statistics (University of Missouri-St. Louis) **Chapter 13**: Linear Regression	**Calculation Portfolio Task (#2)** DUE: Week 7 Friday (3 Sept. 2021) 9:00 am AEST

Week 8 - 06 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Related samples *t*-test	An Introduction to Psychological Statistics (University of Missouri-St. Louis) **Chapter 8**: Introduction to *t*-tests **Chapter 9**: Repeated Measures	**Online Quiz (#4)** DUE: Week 8 Friday (10 Sept. 2021) 9:00 am AEST

Week 9 - 13 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Unrelated samples *t*-test	An Introduction to Psychological Statistics (University of Missouri-St. Louis) **Chapter 10**: Independent Samples	**Calculation Portfolio (#3)** DUE: Week 9 Friday (17 Sept. 2021) 9:00 am AEST

Week 10 - 20 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic

| Chi-square | An Introduction to Psychological Statistics (University of Missouri-St. Louis) **Chapter 14**: Chi-square | **Calculation Portfolio Task (#4)** DUE: Week 10 Friday (24 Sept. 2021) 9:00 am AEST |

Week 11 - 27 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Independent groups ANOVA	An Introduction to Psychological Statistics (University of Missouri-St. Louis) **Chapter 11**: Analysis of Variance	**Calculation Portfolio Task (#5)** DUE: Week 11 Friday (1 Oct. 2021) 9:00 am AEST

Week 12 - 04 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic
Answering Questions with Data	Answering Questions with Data: Introductory Statistics for Psychology Students (Crump Lab) **Chapter 12**: Thinking About Answering Questions with Data	**Computer Task** Due: Week 12 Friday (8 Oct 2021) 11:55 am AEST

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
-	-	-

Term Specific Information

Students will be provided with an eReading List - they will not be required to purchase a textbook.
A freeware statistical analysis program will be used for the final assessment (the Unit Coordinator will demonstrate the use of Jamovi throughout the term).

Assessment Tasks

1 Online Quiz

Assessment Type
Online Quiz(zes)

Task Description
You will be required to complete four Online Quizzes.
These are comprised of 20 multiple-choice questions and you will have 25 minutes to answer these.
You have one attempt at each quiz.

- Quiz 1 (due in Week 3) will cover material from Weeks 1 and 2
- Quiz 2 (due in Week 5) will cover material from Weeks 3 and 4
- Quiz 3 (due in Week 6) will cover material from Week 5
- Quiz 4 (due in Week 8) will cover material from Weeks 6 and 7

Number of Quizzes
4

Frequency of Quizzes
Other

Assessment Due Date
Week 3 Friday (30 July 2021) 9:00 am AEST
Quiz #1 is due 9 am (AEST) on 30/07/2021; Quiz #2 is due 9 am (AEST) on 13/08/2021; Quiz #3 is due 9 am (AEST) on 27/08/2021; Quiz #4 is due 9 am (AEST) on 10/09/2021

Return Date to Students

Grades and feedback will be made available in Moodle immediately after each quiz closes (see DUE dates above).

Weighting
40%

Assessment Criteria
Each correct answer will be awarded half (0.5) a mark.

Referencing Style

- [American Psychological Association 7th Edition (APA 7th edition)](#)

Submission
Online

Submission Instructions
These timed quizzes are to be taken via the Moodle site.

Learning Outcomes Assessed

- Explain and evaluate different statistical methods and procedures
- Translate statistical output into a summary, formatted in APA style.

Graduate Attributes

- Problem Solving
- Information Literacy

2 Calculation Portfolio

Assessment Type
Portfolio

Task Description
You will be required to complete five Calculation Portfolio tasks.
You have one attempt for each Calculation Portfolio task, for which you will have 2 hours to complete it.
You have one attempt at each task.

- Portfolio 1 (due Week 4) will cover material from Weeks 1, 2, and 3
- Portfolio 2 (due Week 7) will cover material from Weeks 6
- Portfolio 3 (due Week 9) will cover material from Week 8
- Portfolio 4 (due Week 10) will cover material from Week 9
- Portfolio 5 (due Week 11) will cover material from Week 10

Assessment Due Date
Week 4 Friday (6 Aug 2021) 9:00 am AEST
Calculation task #1 is due 9 am (AEST) on 06/08/2021; Calculation task #2 is due 9 am (AEST) on 03/09/2021;
Calculation task #3 is due 9 am (AEST) on 17/09/2021; Calculation task #4 is due 9 am (AEST) on 24/09/2021;
Calculation task #5 is due 9 am (AEST) on 01/10/2021

Return Date to Students

Grades will be made available in Moodle immediately after completion of each task. Feedback will be given when each assessment closes (see DUE dates above).

Weighting
50%

Assessment Criteria
Each correct answer will be awarded one (1) mark.

Referencing Style

- [American Psychological Association 7th Edition (APA 7th edition)](#)

Submission
Online

Submission Instructions
These timed calculation tasks are to be taken via the Moodle site.

Learning Outcomes Assessed

- Apply statistical procedures, methods and calculations

Graduate Attributes

- Problem Solving
- Information Technology Competence

3 Computer Task

Assessment Type
Written Assessment

Task Description
You will be required to choose and run an appropriate statistical analysis using computer-based software, as well as interpret and report these results in American Psychological Association (APA) format.

Assessment Due Date
Week 12 Friday (8 Oct 2021) 11:55 am AEST

Return Date to Students

Feedback on assessments will be given approximately two weeks from the due date.

Weighting
10%

Assessment Criteria
This assessment will be graded out of 10. Marks will be allocated, according to the following criteria:

1. Selection of an appropriate statistical analysis for the given data (2 marks)

2. Justification for the choice of statistical test (2 marks)

3. Results reported and interpreted correctly (4 marks)

4. Results written according to American Psychological Association (APA) standards (2 marks)

Referencing Style

- [American Psychological Association 7th Edition (APA 7th edition)](#)

Submission
Online

Submission Instructions
Students will upload a Word document to the Moodle site.

Learning Outcomes Assessed

- Explain and evaluate different statistical methods and procedures
- Apply statistical procedures, methods and calculations
- Translate statistical output into a summary, formatted in APA style.

Graduate Attributes

- Communication
- Critical Thinking
- Information Literacy
- Information Technology Competence

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