PSYC14047 *Advanced Data Analysis*
Term 1 - 2024

All details in this unit profile for PSYC14047 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

In this unit you will develop the analytical skills that are necessary for understanding and carrying out quantitative psychological research. You will examine theoretical information as well as develop in-depth practical knowledge and skills in using a computer-based statistical package through hands-on exercises.

Details

Career Level: *Undergraduate*
Unit Level: *Level 4*
Credit Points: *6*
Student Contribution Band: *10*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

Students must be enrolled in CC42 Bachelor of Psychological Science (Honours)
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 1 - 2024

- Online

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: 20%
2. **Practical Assessment**
Weighting: 60%
3. **Online Test**
Weighting: 20%

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 feedback

Feedback
Weekly assessments help students stay on top of content.

Recommendation
The unit coordinator will continue with the weekly assessments.

Feedback from Student feedback

Feedback
Students appreciate the opportunity to provide feedback throughout the term, and the unit coordinator's responsiveness to feedback

Recommendation
The unit coordinator will continue to proactively seek feedback and respond to all feedback.

Unit Learning Outcomes

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

1. Demonstrate an indepth knowledge of a variety of advanced statistical analytic techniques
2. Demonstrate the correct implementation of a variety of advanced statistical analytic techniques
3. Choose appropriate statistical analyses relevant to specific research designs.

Learning outcomes fulfil the level 2 pre-professional core competencies required by the updated Australian Psychology Accreditation Council (APAC) guidelines. The learning outcomes also meet the study criteria as specified by the Psychology Board of Australia (PsyBA) as appropriate for study at level 8 as stated by the Australian Qualifications Framework (AQF).

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) - 20%	●	●	
2 - Practical Assessment - 60%		●	●
3 - Online Test - 20%	●		●

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) - 20%		•	•			•				
2 - Practical Assessment - 60%		•	•	•		•				
3 - Online Test - 20%	•	•	•							

Textbooks and Resources

Textbooks
PSYC14047

Prescribed

Discovering statistics using IBM SPSS statistics
Edition: 5th (2018)
Authors: Andy Field
Sage
London , UK
ISBN: 9781526419521
Binding: Paperback

View textbooks at the CQUniversity Bookshop

IT Resources
You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- IBM SPSS Statistics GradPack. Ideally buy the latest version and either the Standard or Premium edition. This course requires the Standard feature set (the Basic version will not be enough), but some of you may need Premium features for your thesis. I suggest discussing with your thesis supervisor.

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

Alex Russell Unit Coordinator
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Schedule

Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Elements of advanced statistics	Field, Version 4, Chapters 1 and 2 Field, Version 5, Chapters 1, 2 and 3	eFil Quiz (not graded) SPSS practical (not graded)

Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Model bias	Field, Version 4, Chapter 5 Field, Version 5, Chapter 6	eFil quiz SPSS practical

Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Correlation	Field, Version 4, Chapter 7 Field, Version 5, Chapter 8	eFil quiz SPSS practical

Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic

Module/Topic	Chapter	Events and Submissions/Topic
Regression	Field, Version 4, Chapter 8 Field, Version 5, Chapter 9	eFil quiz SPSS practical

Week 5 - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Comparing means (GLM1)	Field, Version 4, Chapters 9 and 11 Field, Version 5, Chapter 10 and 12	eFil quiz SPSS practical

Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Moderation and mediation	Field, Version 4, Chapter 10 Field, Version 5, Chapter 11	eFil quiz SPSS practical

Week 7 - 22 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Analysis of covariance (GLM2)	Field, Version 4, Chapter 12 Field, Version 5, Chapter 13	eFil quiz SPSS practical

Week 8 - 29 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Factorial ANOVA (GLM3)	Field, Version 4, Chapter 13 Field, Version 5, Chapter 14	eFil quiz SPSS practical

Week 9 - 06 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Repeated measures designs (GLM4)	Field, Version 4, Chapter 14 Field, Version 5, Chapter 15	eFil quiz SPSS practical

Week 10 - 13 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Mixed design ANOVA (GLM5)	Field, Version 4, Chapter 15 Field, Version 5, Chapter 16	eFil quiz SPSS practical

Week 11 - 20 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Exploratory factor analysis	Field, Version 4, Chapter 17 Field, Version 5, Chapter 18	eFil quiz SPSS practical

Week 12 - 27 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Logistic regression	Field, Version 4, Chapter 19 Field, Version 5, Chapter 20	eFil quiz SPSS practical

Review/Exam Week - 03 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic
		Final assessment (date TBD)

Exam Week - 10 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 eFIL EXERCISES (11 assessed, but only the top 10 counted towards your

grade)

Assessment Type
Online Quiz(zes)

Task Description
eFIL (electronic Focused Interactive Learning) is an innovative method of assessment that encourages active learning and communication among students, irrespective of location. eFIL activities are incorporated into weeks 2-12.

eFIL exercises will count for 20% of your unit grade. While you will sit 11 eFILs in weeks 2-12, only your best 10 will count (each worth 2%). There is also a practice eFIL in week 1, which does not count towards your grade, and is there to introduce you to the format.

What's Involved?
Each week you will complete a multiple choice quiz containing 5 'complex-reasoning' and content-knowledge questions. The quiz will be open from Thursday morning 9:00 until the following Monday night 11:59pm and questions will be based on that week's unit content. You need to attempt the quiz twice, with the highest attempt counting towards your grade.

After the first attempt you will have access to an eFIL Discussion forum for that week, which allows you to discuss the quiz with a small group of other students, before taking your second attempt at the quiz. Each quiz attempt is open for 20 minutes.

How is eFIL different from a normal quiz?
eFIL assessment provides you with the opportunity to discuss your answers with a small group of students online, just as if you were in a classroom tutorial session. Every week, after the first quiz attempt has been made, you will be able to enter a forum as part of a small group of students, where you will have the opportunity to discuss everyone's answers and the reasons for these answers. You will then take the quiz a second time; open until the deadline; with the benefits of knowing the views of other students. Your highest grade of the two will count. Please note that the eFIL forums are a privilege. You are expected to contribute to the discussion early each week with your group, so that you work out the answers as a group.

IMPORTANT: It is strongly encouraged that you keep up to date with iterative assessments. In extenuating circumstances (and in accordance with assessment policy and procedure) an alternative question bank and dataset can be arranged; however please note that this is unlikely to be approved if close to the due date, so you need to plan your time accordingly.

Number of Quizzes
-3

Frequency of Quizzes
Weekly

Assessment Due Date

Each weekly eFIL activity closes at 11:59pm on the Monday of the following calendar week (e.g. Week 1 eFIL closes on the Monday of Week 2).

Return Date to Students

Marked answers with solutions are available when the quiz closes and further feedback is provided via forums and weekly consultation sessions.

Weighting
20%

Assessment Criteria
Your 10 best eFILs from weeks 2-12 are each worth 2%. There are five (5) questions in each activity, in a multiple choice format, and each question is weighted equally.

Referencing Style

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

Submission
Online

Submission Instructions
Quiz is completed via the moodle site.

Learning Outcomes Assessed

- Demonstrate an indepth knowledge of a variety of advanced statistical analytic techniques
- Demonstrate the correct implementation of a variety of advanced statistical analytic techniques

Graduate Attributes

- Problem Solving
- Critical Thinking
- Information Technology Competence

2 SPSS Practical Exercises (11 assessed, but only the top 10 counted towards your grade)

Assessment Type
Practical Assessment

Task Description
Practical proficiency in analysing data will be assessed via the completion of data analysis exercises in SPSS. Due to the unit being offered by distance, data-sets and questions will be provided for analysis via Moodle in weeks 2-12. As in the case of the eFIL exercises, your best 10 SPSS practicals count towards your final unit grade. There is a practice SPSS practical in week 1, which does not count towards your grade, and is there to introduce you to the format.

Content Covered
Each SPSS practical exercise will cover material for that teaching week: i.e. SPSS practical 1 will cover material from teaching week 1. Importantly, the SPSS practical exercises will be based heavily on the 'Smart Alex's tasks' at the end of each chapter in the text. Therefore, you should ensure that you complete and then read the feedback (available as supporting content from the publisher's website) for the relevant Smart Alex's tasks before attempting the practical exercise. For example, you should complete all the Smart Alex's tasks for chapters 1 and 2 in week 1 before attempting the quiz. You should also complete your review of the chapter content for that week before attempting the SPSS practical.

Timing
Each SPSS practical will open in the morning on the Thursday of the current teaching week, and close at 11:59pm on the following Monday. Note that the window for completing each assessment is the same as the eFIL quizzes. In contrast to eFIL, the SPSS practicals are NOT group discussion exercises and rather focus on developing your confidence to independently conduct and interpret statistical analysis. A time-limit of 2 hours is enforced for entering the answers of each SPSS practical. Therefore, you should ensure that you take steps to avoid technical issues, are fully prepared, and have sufficient time to complete the questions before beginning the assessment.

IMPORTANT: It is strongly encouraged that you keep up to date with iterative assessments. In extenuating circumstances (and in accordance with assessment policy and procedure) an alternative question bank and dataset can be arranged; however please note that this is unlikely to be approved if close to the due date, so you need to plan your time accordingly.

Assessment Due Date

Each weekly SPSS practical assessment closes at 11:59pm on the Monday of the following calendar week (e.g. Week 1 assessment closes on the Monday of Week 2).

Return Date to Students

A general feedback sheet is available to students once all students have completed the assessment, allowing for any extensions. Further feedback can be obtained via Moodle forums and weekly Zoom meetings.

Weighting
60%

Assessment Criteria
Your 10 best SPSS practical assessments from weeks 2-12 are each worth 6%.

Referencing Style

- American Psychological Association 7th Edition (APA 7th edition)

Submission
Online

Learning Outcomes Assessed

- Demonstrate the correct implementation of a variety of advanced statistical analytic techniques
- Choose appropriate statistical analyses relevant to specific research designs.

Graduate Attributes

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

3 Online Test

Assessment Type
Online Test

Task Description
The final assessment for the course is an online assessment, which will be held during examination week. The final assessment is worth 20% and is an online quiz, where you will be given a scenario, and will then answer 2-3 short questions on each one. A practice example of the online test will be available on Moodle throughout the term, so you can see its format. Answers will generally be short answers, in some cases a single word or number will be required, while in other cases, you may be required to write a sentence or two. The final assessment is open-book, and three hours are allowed for completion. You will not be allowed to consult with other students during the examination period.

Assessment Due Date

Return Date to Students

Due to the nature of the online test, no feedback is available. However, students may consult with the unit coordinator if required.

Weighting
20%

Assessment Criteria
This assessment covers the entire content of the unit, and is worth 20% of your final mark. While you will get feedback on your eFIL and SPSS prac assessments, for this final assessment, you will not get feedback apart from your mark. The assessment is marked manually by the unit coordinator, so marks will not be immediately available when the assessment is completed.

Referencing Style

- American Psychological Association 7th Edition (APA 7th edition)

Submission
Online

Learning Outcomes Assessed

- Demonstrate an indepth knowledge of a variety of advanced statistical analytic techniques
- Choose appropriate statistical analyses relevant to specific research designs.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking

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