ESSC11002 *Measurement and Evaluation in Health Science*

Term 2 - 2022

Profile information current as at 24/04/2024 01:59 am

All details in this unit profile for ESSC11002 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 Measurement and Evaluation in Health Science you will study and explore a range of experimental designs and statistical analyses appropriate to investigations in a wide range of fields. This unit will introduce you to both parametric and non-parametric statistical methods that will allow you to be informed, evaluate the credibility and usefulness of information, and make appropriate decisions about research data. This is a practical unit that will develop your skills in the use of statistical software to organise, analyse and report statistical outcomes.

Details

Career Level: *Undergraduate*
Unit Level: *Level 1*
Credit Points: *6*
Student Contribution Band: *10*
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 - 2022

- Bundaberg
- Cairns
- Mackay City
- Online
- Rockhampton

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: 30%
2. **Written Assessment**
Weighting: 70%

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.

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 Have Your Say

Feedback

Increase the visual quality of the tutorials.

Recommendation

It is recommended to improve the visuals of the tutorials for students.

Feedback from Have Your Say

Feedback

Change the weighting of the Written assessment Part A and B.

Recommendation

It is recommended that Part A and Part B weightings for the Written assessment be modified to reflect the assessment items.

Unit Learning Outcomes

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

1. Identify fundamental statistical terminology and theory
2. Demonstrate knowledge and ability in collating, organising and displaying research data
3. Utilise descriptive and inferential statistics to inform appropriate decision making
4. Apply statistical software to analyse, manage and describe statistical outcomes

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
1 - Online Quiz(zes) - 30%	●	●	●	
2 - Written Assessment - 70%	●	●	●	●

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Communication	○	○	○	○
2 - Problem Solving	○	○	○	○

Graduate Attributes	Learning Outcomes			
	1	**2**	**3**	**4**
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) - 30%	•	•	•							
2 - Written Assessment - 70%	•	•	•	•		•				

Textbooks and Resources

Textbooks
ESSC11002
Prescribed

Statistics for people who (think they) hate statistics using microsoft excel
Edition: 4th (2016)
Authors: Neil Salkind
Sage
London , United Kingdom
ISBN: 9781483374086
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)
- Adobe Acrobat Reader (or similar) software for viewing PDF documents
- Excel 2016 (onwards) with Data Analysis Toolpak
- ZOOM Videoconferencing software. A ZOOM account is available with your student credentials. We will use this software for review meetings.

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

Sam Fien Unit Coordinator
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Schedule

Week 1 - 11 Jul 2022

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Statistics and the Wonderful World of Excel	**Statistics for People Who (Think They) Hate Statistics: Using Microsoft Excel 2016 (4th ed.).** **Chapter 1** Statistics or Sadistics? It's Up to You **Chapter 6** Just the Truth: An Introduction to Understanding Reliability and Validity **Appendix A** Excel-erate Your Learning	

Week 2 - 18 Jul 2022

Module/Topic	Chapter	Events and Submissions/Topic
Descriptive Statistics and How to Present Them	**Statistics for People Who (Think They) Hate Statistics: Using Microsoft Excel 2016 (4th ed.).** **Chapter 2** Computing and Understanding Averages: Means to an End **Chapter 3** Vive la Difference: Understanding Variability **Chapter 4** A Picture Really Is Worth a Thousand Words	

Week 3 - 25 Jul 2022

Module/Topic	Chapter	Events and Submissions/Topic
So You Want to Be a Scientist? Introduction to Research and Hypothesis Testing	**Statistics for People Who (Think They) Hate Statistics: Using Microsoft Excel 2016 (4th ed.).** **Chapter 7** Hypotheticals and You: Testing Your Questions	

Week 4 - 01 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
Testing Your Research Question: Importance of Normal Distribution and Introduction to Inferential Statistics	**Statistics for People Who (Think They) Hate Statistics: Using Microsoft Excel 2016 (4th ed.).** **Chapter 8** Are Your Curves Normal? Probability and Why It Counts **Chapter 9** Significantly Significant: What It Means for You and Me	

Week 5 - 08 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Categorical Data	**Statistics for People Who (Think They) Hate Statistics: Using Microsoft Excel 2016 (4th ed.).** **Chapter 17** What to Do When You're Not Normal: Chi-Square and Some Other Nonparametric Tests	**Online Quiz 1 opens:** Week 5 Monday (8 Aug, 2022) 9:00 am AEST and will be available until Break Week Monday (15 Aug, 2022) 9:00 am AEST.

Vacation Week - 15 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 22 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Interval/Ratio Data Part 1: Testing for Differences with a Single Sample	**Statistics for People Who (Think They) Hate Statistics: Using Microsoft Excel 2016 (4th ed.).** **Chapter 10** Only the Lonely: The One-Sample Z-Test	**Written Assessment Part A Due:** Week 6 Monday (22 Aug, 2022) 9:00 am AEST

Week 7 - 29 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Interval/Ratio Data Part 2: Testing for Differences between Two Independent Samples – Parametric and Nonparametric Tests	**Statistics for People Who (Think They) Hate Statistics: Using Microsoft Excel 2016 (4th ed.).** **Chapter 11** T(ea) for Two: Tests Between the Means of Different Groups **Chapter 17** What to Do When You're Not Normal: Chi-Square and Some Other Nonparametric Tests	

Week 8 - 05 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Interval/Ratio Data Part 3: Testing for Differences between Two Dependent Samples – Parametric and Nonparametric Tests	**Statistics for People Who (Think They) Hate Statistics: Using Microsoft Excel 2016 (4th ed.).** **Chapter 12** T(ea) for Two: Tests Between the Means of Related Groups **Chapter 17** What to Do When You're Not Normal: Chi-Square and Some Other Nonparametric Tests	

Week 9 - 12 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Interval/Ratio Data Part 4: Testing for Differences between More Than Two Independent Samples – Parametric and Nonparametric Tests	**Statistics for People Who (Think They) Hate Statistics: Using Microsoft Excel 2016 (4th ed.).** **Chapter 13** Two Groups Too Many? Try Analysis of Variance **Chapter 17** What to Do When You're Not Normal: Chi-Square and Some Other Nonparametric Tests	**Online Quiz 2 opens:** Week 9 Monday (12 Sept, 2022) 9:00 am AEST and will be available until Week 10 Monday (19 Sept, 2022) 9:00 am AEST.

Week 10 - 19 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic

	Statistics for People Who (Think They) Hate Statistics: Using Microsoft Excel 2016 (4th ed.).	
Analysing Interval/Ratio Data Part 5: Testing for Differences between More Than Two Dependent Samples – Parametric vs Nonparametric Tests	**Chapter 13** Two Groups Too Many? Try Analysis of Variance **Chapter 17** What to Do When You're Not Normal: Chi-Square and Some Other Nonparametric Tests	

Week 11 - 26 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Interval/Ratio Data Part 6: Testing for Associations and Predictions – Parametric and Nonparametric Tests	**Statistics for People Who (Think They) Hate Statistics: Using Microsoft Excel 2016 (4th ed.).** **Chapter 5** Ice Cream and Crime: Computing Correlation Coefficients **Chapter 15** Cousins or Just Good Friends? Testing Relationships Using Correlation Coefficient **Chapter 16** Predicting Who'll Win the Super Bowl: Using Linear Regression	

Week 12 - 03 Oct 2022

Module/Topic	Chapter	Events and Submissions/Topic
Unit Wrap-up		**Online Quiz 3 opens:** Week 12 Monday (3 Oct, 2022) 9:00 am AEST and will be available until Review/Exam Week Monday (10 Oct, 2022) 9:00 am AEST.

Review/Exam Week - 10 Oct 2022

Module/Topic	Chapter	Events and Submissions/Topic
		Written Assessment Part B Due: Review/Exam Week Monday (10 Oct, 2022) 9:00 am AEST.

Assessment Tasks

1 Online Quizzes

Assessment Type
Online Quiz(zes)

Task Description

The online quizzes will comprise three (3) separate Online Quizzes made up of multiple-choice and fill-in-the-blank questions.

Each Online Quiz is to be completed on your own using multiple resources to help you answer the questions. You are responsible for logging onto Moodle and completing each Online Quiz when the quiz is available. In the absence of an approved extension, no late submissions will be allowed for any of the Online Quizzes that make up this assessment item.

Online Quiz 1 (Weighting: 10% of final grade)

Online Quiz 1 will be available during the following times:

Opening date: Online Quiz 1 will open Week 5 Monday (8 Aug, 2022) at 09:00 am AEST.

Closing date: Online Quiz 2 will close Break Week Monday (15 Aug, 2022) at 09:00 am AEST.

You must log onto Moodle during this time period to complete Online Quiz 1. Online Quiz 1 will contain 20 questions associated with weeks 1 - 4 (inclusive) and you will have 40 minutes to complete this Online Quiz.

Online Quiz 2 (Weighting: 10% of final grade)

Online Quiz 2 will be available during the following times:

Opening date: Online Quiz 2 will open Week 9 Monday (12 Sept, 2022) at 09:00 am AEST.

Closing date: Online Quiz 2 will close Week 10 Monday (19 Sept, 2022) at 09:00 am AEST.

You must log onto Moodle during this time period to complete Online Quiz 2. Online Quiz 2 will contain 20 questions associated with weeks 5 - 8 (inclusive) and you will have 40 minutes to complete this Online Quiz.

Online Quiz 3 (Weighting: 10% of final grade)

Online Quiz 3 will be available during the following times:

Opening date: Online Quiz 3 will open Week 12 Monday (3 Oct, 2022) at 09:00 am AEST.

Closing date: Online Quiz 3 will close Review/Exam Week (10 Oct, 2022) at 09:00 am AEST.

You must log onto Moodle during this time period to complete Online Quiz 3. Online Quiz 3 will contain 20 questions associated with weeks 9 - 11 (inclusive) and you will have 40 minutes to complete this Online Quiz.

Number of Quizzes
3
Frequency of Quizzes
Other
Assessment Due Date

The three (3) online quizzes will be administered at various time point as described in the Task Description.
Return Date to Students

Quiz results will be available to students at the close of each quiz.
Weighting
30%
Assessment Criteria
Responses to Online Quizzes will be marked as correct or incorrect by the Moodle Online Quiz System, and tabulated to give a mark for each Online Quiz. For questions with text-based responses (e.g. fill in the blank) you should take care with spelling (Australian English) and grammar, as answers are spelling and grammar sensitive.

Referencing Style

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

Submission
Online
Learning Outcomes Assessed

- Identify fundamental statistical terminology and theory
- Demonstrate knowledge and ability in collating, organising and displaying research data
- Utilise descriptive and inferential statistics to inform appropriate decision making

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking

2 Written Assessment

Assessment Type
Written Assessment

Task Description

This assessment task comprises two (2) parts: Part A, and Part B

Part A Due date: Week 6 Monday (22 Aug, 2022) 09:00 am AEST.

Part A: Weighting is 20% of overall grade.

For Part A, you will be provided with an Excel file that will contain a data set for which you will need to perform a series of analyses. The assessment questions will be based on material covered in Week 1 to Week 5 (inclusive). To complete the assessment you must answer the questions on the provided Excel file. The task is to be completed individually. A copy of the data sets and questions for this assessment will be available on the Moodle site as an Excel file. Each question will be accompanied by a breakdown of the available marks. A marking rubric for the assessment task is available on Moodle.

Part B Due date: Review/Exam Week Monday (10 Oct, 2022) 09:00 am AEST.

Part B: Weighting is 50% of overall grade.

For Part B, you will be provided with a different Excel file to Part A with a set of data and research questions. For each research question, you will be required to conduct an appropriate statistical analysis to answer the proposed question. You may also need to conduct some preliminary analyses to determine the appropriate statistical analysis necessary to answer the question. In addition to the statistical analysis, you will provide a written summary detailing the analysis and the results of the statistical analysis using the APA formatting as required (see Word document template). This task is to be completed individually. A copy of the data sets and research questions for this assessment is available on the unit Moodle site. Please note the analyses required for this assessment will be based on material covered in Week 1 to Week 11 (inclusive). A marking rubric for this assessment task is available on Moodle. To complete this assessment, you must upload two (2) files - one (1) Excel file and one (1) Word file.

1. Excel File - For each data set and associated research question, you must conduct the appropriate analyses on the provided Excel file. Your data and analyses must be clearly formatted/organized and labelled.

2. Word File - For each data set and associated research question, you must write a brief summary reporting the statistical analysis and the findings (along with any requested tables or figures) in APA format. The summary for each data set and associated research question should be no more than 150 words. NOTE: Simple copying of the data from your Excel spreadsheet and embedding into the Word file will not suffice for this assessment piece.

Assessment Due Date

Part A is due Week 6 Monday (22 Aug, 2022) at 09:00 am AEST. Part B is due Exam/Review Week Monday (10 Oct, 2022) at 09:00 am AEST

Return Date to Students

Marks for Part A will be available two (2) working weeks after submission date and will be on Monday (5 Sept, 2022). Marks for Part B will be available on release of final grades.

Weighting
70%

Minimum mark or grade
Overall, a minimum grade of 50% is required to be met for the Written Assessment item (Part A and B).

Assessment Criteria

Part A

Marking will be based on the following criteria:

1. Appropriate use of Excel functions and statistical analysis.

Part B

Marking will be based on the following criteria:

1. Appropriate use and presentation of Excel statistical analyses to answer each proposed research

question.

2. Appropriate summary and interpretation of statistical findings.

Referencing Style

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

Submission
Online

Submission Instructions
Assessments (Part A and Part B) are to be completed on the provided file/s and submitted as an Excel (.xls or .xlsx) and Word file (.doc or .docx) via the respective Moodle Online Assignment upload link.

Learning Outcomes Assessed

- Identify fundamental statistical terminology and theory
- Demonstrate knowledge and ability in collating, organising and displaying research data
- Utilise descriptive and inferential statistics to inform appropriate decision making
- Apply statistical software to analyse, manage and describe statistical outcomes

Graduate Attributes

- Communication
- Problem Solving
- 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