



ESSC11002 Measurement and Evaluation in Health Science

Term 3 - 2018

Profile information current as at 02/05/2024 05:38 pm

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

The unit is designed so that students should be able to evaluate a range of experimental designs and statistical analyses appropriate to investigations in exercise and sport science. Students will be provided with statistical knowledge and skills to organise, analyse and interpret scientific data. Students will be required to utilise and apply statistical software to determine both descriptive and inferential statistical outcomes. The use of statistical/spreadsheet computer package for data analysis is covered. Lecture material will be supplemented by tutorials throughout the unit. Practical examples across all of the scientific disciplines are used in lectures and tutorials.

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 3 - 2018

- Distance

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. **Written Assessment**

Weighting: 35%

3. **Written Assessment**

Weighting: 45%

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 Evaluations and Moodle Forums

Feedback

Students found the step-by-step tutorial videos helped them understand basic features of Excel and how to perform statistical analyses within Excel. However, some differences in the version of Excel used to record tutorial videos and versions students were using caused confusion.

Recommendation

Tutorial videos will continue to be provided along with additional resources related to Excel basics which should address differences between versions. Students will also be encouraged to see additional resources and use the Forums to seek clarification.

Feedback from Unit Evaluations

Feedback

Students enjoyed the assessment items and seeing how statistics are applied in the real world.

Recommendation

Continue to provide authentic assessments that align with learning outcomes of the unit.

Feedback from Unit Evaluations and Self-reflection

Feedback

Lectures tend to be long and contain a large amount of information. Students appear to gain more from the tutorial activities.

Recommendation

A review of the lecture content will be undertaken to determine best mode of delivery for the unit. Including opportunities for flipped classroom with lectures pre-recorded and the face-to-face delivery involving tutorial activities.

Unit Learning Outcomes

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

1. Evaluate a range of experimental designs and statistical analyses appropriate to investigations in exercise and sport science.
2. Demonstrate knowledge and ability in collating, organising and displaying affective data
3. Utilise descriptive and inferential statistics to make decisions
4. Apply statistical software to analyse, manage and describe statistical relationships.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Online Quiz(zes) - 20%	•	•		

Assessment Tasks	Learning Outcomes			
	1	2	3	4
2 - Written Assessment - 35%	•	•	•	•
3 - Written Assessment - 45%	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
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 - Written Assessment - 35%	•	•	•	•		•				
3 - Written Assessment - 45%	•	•	•	•		•				

Textbooks and Resources

Textbooks

ESSC11002

Prescribed

Statistics for People Who (Think They) Hate Statistics :Using Microsoft Excel 2016

Edition: 4th edn (2016)

Authors: Salkind , Neil

Sage Publications

London , UK

ISBN: 9781483374086

Binding: Paperback

Additional Textbook Information

Electronic version of this textbook can be found online via a number of sources listed on [Sage Publishing](#). Alternatively you may search online using the eText ISBN list below.

eText ISBN: 9781483374109 OR 1483374106

Paper copies are still available 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)
- Excel 2016 with Data Analysis Toolpak

Referencing Style

All submissions for this unit must use the referencing style: [American Psychological Association 6th Edition \(APA 6th edition\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Brendan Humphries Unit Coordinator

b.humphries@cqu.edu.au

Schedule

Week 1 - 05 Nov 2018

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Statistics and the Wonderful World of Excel	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 - 12 Nov 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Descriptive Statistics and How to Present Them

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 - 19 Nov 2018

Module/Topic	Chapter	Events and Submissions/Topic
So You Want to Be a Scientist? Introduction to Research and Hypothesis Testing	Chapter 7 Hypotheticals and You: Testing Your Questions Online Material	

Week 4 - 26 Nov 2018

Module/Topic	Chapter	Events and Submissions/Topic
Testing Your Research Question: Importance of Normal Distribution and Introduction to Inferential Statistics	Chapter 8 Are Your Curves Normal? Probability and Why It Counts Chapter 9 Significantly Significant: What It Means for You and Me	Online Quiz Opens: Week 4 Wednesday (28 November 2018) 5:00 pm AEST

Vacation Week - 03 Dec 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Week 5 - 10 Dec 2018

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Categorical Data	Chapter 17 What to Do When You're Not Normal: Chi-Square and Some Other Nonparametric Tests Online Material	Online Quiz Due: Week 5 Wednesday (12 Dec 2018) 5:00 pm AEST

Week 6 - 17 Dec 2018

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Interval/Ratio Data Part 1: Testing for Differences with a Single Sample	Chapter 10 Only the Lonely: The One-Sample Z-Test Online Material	

Week 7 - 31 Dec 2018

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Interval/Ratio Data Part 2: Testing for Differences between Two Independent Samples – Parametric and Nonparametric Tests	Chapter 11 t(ea) for Two: Tests Between the Means of Different Groups Online Material	

Week 8 - 07 Jan 2019

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Interval/Ratio Data Part 3: Testing for Differences between Two Dependent Samples – Parametric and Nonparametric Tests	Chapter 12 t(ea) for Two: Tests Between the Means of Related Groups Online Material	Written Assessment #1 Due: Week 8 Wednesday (9 Jan 2019) 5:00 pm AEST

Week 9 - 14 Jan 2019

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	Chapter 13 Two Groups Too Many? Try Analysis of Variance Online Material	

Week 10 - 21 Jan 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Analysing Interval/Ratio Data Part 5:
Testing for Differences between More
Than Two Dependent Samples –
Parametric vs Nonparametric Tests

Online Material

Week 11 - 28 Jan 2019

Module/Topic	Chapter	Events and Submissions/Topic
Analysing Interval/Ratio Data Part 6: Testing for Associations and Predictions – Parametric and Nonparametric Tests	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 - 04 Feb 2019

Module/Topic	Chapter	Events and Submissions/Topic
Unit Wrap-up		

Exam Week - 11 Feb 2019

Module/Topic	Chapter	Events and Submissions/Topic
		Written Assessment #2 Due: Exam Week Wednesday (13 Feb 2019) 5:00 pm AEST

Assessment Tasks

1 Online Quiz

Assessment Type

Online Quiz(zes)

Task Description

This assessment item consists of one (1) online quiz and will assess a wide range of unit material covered in Week 1 through to (and inclusive of) Week 4. The quiz is to be completed individually using multiple resources (i.e. lectures and tutorials videos with accompanying notes, and the textbook) to help answer the questions.

The quiz will consist of forty (40) multiple-choice questions that will be drawn randomly from a larger pool of questions. The quiz will be available during the following times:

Open Date: Week 4 Wednesday (28 November 2018) at 5:00 pm AEST.

Due Date: Week 5 Wednesday (12 December 2018) at 5:00 pm AEST.

It is your responsibility to log on to Moodle and complete the quiz during the time the quiz is available.

You can only attempt the quiz once and it must be completed in a single session. Once you have commenced the quiz, you will have one (1) hour to complete the quiz. You cannot save your answers and return to the quiz at a later time.

In the absence of an approved extension there will be no late submissions allowed.

Number of Quizzes

1

Frequency of Quizzes

Other

Assessment Due Date

Week 5 Wednesday (12 Dec 2018) 5:00 pm AEST

You must log onto Moodle between the specified Open and Close Dates to complete the quiz using the Moodle Online Quiz System.

Return Date to Students

Week 5 Wednesday (12 Dec 2018)

You will receive the overall result for the quiz upon completion; however, you will see feedback regarding the correct answers for each question upon closure of the quiz (Week 5 Wednesday at 5:00 pm AEST).

Weighting

20%

Assessment Criteria

Answers will either be correct or incorrect and tabulated by the Moodle Online Quiz System.

Referencing Style

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

Submission

Online

Submission Instructions

Submitted online via the Moodle Quiz System.

Learning Outcomes Assessed

- Evaluate a range of experimental designs and statistical analyses appropriate to investigations in exercise and sport science.
- Demonstrate knowledge and ability in collating, organising and displaying affective data

Graduate Attributes

- Communication
- Critical Thinking
- Ethical practice

2 Written Assessment #1

Assessment Type

Written Assessment

Task Description

You will be provided with an Excel file that will contain a set of data for which you will need to perform a series of analyses. The assessment questions will be based on material covered in Week 1 through to (and inclusive of) Week 6 and will include the following:

1. Use of Built-in Excel Functions
2. Construction of a Frequency Distribution Table and Histograms
3. Calculating and Summarising Descriptive Statistics
4. Statistical Analysis of Categorical Data and Summarising Findings of the Analysis
5. Conducting a Single Sample Statistical Test and Summarising Findings of the Analysis

To complete this assessment, you must answer the questions on the provided Excel file. Answers must be clearly organised and using APA formatting as required. This task is to be completed individually. You may use multiple resources to help answer the questions.

A copy of the data sets and questions for this assessment will be made available (as an Excel file) at the start of Week 3 on the unit Moodle site.

Assessment Due Date

Week 8 Wednesday (9 Jan 2019) 5:00 pm AEST

Return Date to Students

Week 10 Wednesday (23 Jan 2019)

Feedback and grade will be returned via the unit Moodle site.

Weighting

35%

Assessment Criteria

Marking will be based on the following criteria:

1. Appropriate use and presentation of Excel functions and statistical analyses
2. Appropriate summary of statistical findings including APA formatting

Referencing Style

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

Submission

Online

Submission Instructions

Assessments are to be completed on the provided Excel file and submitted as an Excel file (.xls or .xlsx) via the Moodle online assignment upload link.

Learning Outcomes Assessed

- Evaluate a range of experimental designs and statistical analyses appropriate to investigations in exercise and sport science.
- Demonstrate knowledge and ability in collating, organising and displaying affective data
- Utilise descriptive and inferential statistics to make decisions
- Apply statistical software to analyse, manage and describe statistical relationships.

Graduate Attributes

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

3 Written Assessment #2

Assessment Type

Written Assessment

Task Description

For this assessment item, you will be provided an Excel file with a set of data and six (6) research scenarios/questions. For each research scenario 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 also provide a written summary detailing the analysis that was completed and the results of the statistical analysis.

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/organised.
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: Simply copying data from the Excel spreadsheet and embedding into the Word file will NOT suffice for this assessment piece.

This task is to be completed individually. You may use multiple resources to help answer the questions.

A copy of the data sets and research questions for this assessment will be made available (as an Excel file) at the start of Week 7 on the unit Moodle site. Please note, the analyses required for this assessment will be based on material covered in Week 7 through to (and inclusive of) Week 11.

Assessment Due Date

Exam Week Wednesday (13 Feb 2019) 5:00 pm AEST

Return Date to Students

Assessment results will be returned upon certification of grades.

Weighting

45%

Assessment Criteria

Answers will be assessed based on:

1. Completing and presenting appropriate statistical analyses to answer each proposed research question
2. Written summary of statistical analyses and interpretation of results including any required tables and figures
3. Formatting and writing style

Referencing Style

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

Submission

Online

Submission Instructions

You are to submit two files (one Excel file (.xls or .xlsx) and one Word file (.doc or .docx)) via the Moodle online assignment upload link.

Learning Outcomes Assessed

- Evaluate a range of experimental designs and statistical analyses appropriate to investigations in exercise and sport science.
- Demonstrate knowledge and ability in collating, organising and displaying affective data
- Utilise descriptive and inferential statistics to make decisions
- Apply statistical software to analyse, manage and describe statistical relationships.

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