



# AGRI13006 Data Management & Analysis for Agriculture

## Term 1 - 2021

Profile information current as at 03/05/2024 09:17 am

All details in this unit profile for AGRI13006 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 provides you with the skills and techniques to analyse and manage data, interpret results, and report data analysis methods and findings in an agricultural science environment. Qualitative and quantitative research approaches are examined to consider their contributions to knowledge development through empirical research. Computer software most suitable to agricultural science data management and analysis will be introduced, including GIS for specified data. The unit assessment includes research reports designed to develop and demonstrate your ability to apply knowledge and skills to analysing qualitative and quantitative data and reporting your research findings.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 7

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Prerequisite SCIE11023 Science Communication AND AGRI11004 Research in Agriculture AND one of the following AGRI13004 Livestock Industry Placement or AGRI13005 Cropping Industry Placement or AGRI13003 Agricultural Service Industry Placement

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 - 2021

- Bundaberg
- Emerald
- 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. **Group Discussion**

Weighting: Pass/Fail

#### 2. **Group Work**

Weighting: 40%

#### 3. **Written Assessment**

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 Have Your Say (Student Moodle evaluation)

##### Feedback

GIS is very useful; would have liked to learn it sooner.

##### Recommendation

Students who find this subject interesting will be encouraged to enrol in an elective GIS unit in their second year of study.

#### Feedback from Have Your Say (Student Moodle evaluation)

##### Feedback

Guest speakers helped to illustrate the application of the unit.

##### Recommendation

Relevant and experienced professionals to be invited to deliver guest lectures and engage with the students.

#### Feedback from Have Your Say (Student Moodle evaluation)

##### Feedback

The unit is very practical and the tutorials help in building confidence to analyse data. The unit is very well taught.

##### Recommendation

The same high level of teaching will be provided in future offerings.

## Unit Learning Outcomes

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

1. Develop appropriate research questions.
2. Design and conduct a qualitative data analysis.
3. Design and conduct a quantitative data analysis.
4. Manage and manipulate data using statistical software packages.
5. Demonstrate proficiency in integrating GIS data analysis with statistical analysis.

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Group Discussion - 0%	•				
2 - Group Work - 40%		•	•	•	•
3 - Written Assessment - 60%		•	•	•	•

## Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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 - Group Discussion - 0%	•	•	•	•	•		•	•		
2 - Group Work - 40%	•	•	•	•	•	•	•	•		
3 - Written Assessment - 60%	•	•	•	•	•	•	•	•		

## Textbooks and Resources

### Textbooks

**There are no required textbooks.**

#### Additional Textbook Information

None

### IT Resources

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

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- ZOOM
- Online GIS software

## Referencing Style

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

## Teaching Contacts

**Richard Koech** Unit Coordinator  
[r.koech@cqu.edu.au](mailto:r.koech@cqu.edu.au)

## Schedule

### Week 1 - 08 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to the art and science of data collection, management and analysis		

### Week 2 - 15 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Developing research questions and methods for data collection and analysis		

### Week 3 - 22 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Geographic Information Systems (GIS) and spatial data		

### Week 4 - 29 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to GIS software		<b>Assessment 1: Group Discussion (Pass/Fail)</b> Due: Week 4 Friday (2 Apr 2021) 11:45 pm AEST

### Week 5 - 05 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Qualitative data analysis in agriculture		

### Vacation Week - 12 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
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### Week 6 - 19 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Quantitative data analysis in agriculture		

### Week 7 - 26 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Statistical packages for data management and analysis		

### Week 8 - 03 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
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Introduction to data analysis in GIS software

**Assessment 2: Group Work** Due: Week 8 Friday (7 May 2021) 11:45 pm AEST

#### Week 9 - 10 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Data analysis in GIS software		

#### Week 10 - 17 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Integrating GIS data analysis with statistical analysis		

#### Week 11 - 24 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Data handling, storage and processing		

#### Week 12 - 31 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Unit Review		<b>Assessment 3: Written Assessment</b> Due: Week 12 Friday (4 June 2021) 11:45 pm AEST

#### Review/Exam Week - 07 Jun 2021

Module/Topic	Chapter	Events and Submissions/Topic
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#### Exam Week - 14 Jun 2021

Module/Topic	Chapter	Events and Submissions/Topic
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## Assessment Tasks

### 1 Assessment 1: Group Discussion (Pass/Fail)

#### Assessment Type

Group Discussion

#### Task Description

This assessment will cover the basic steps in the research process. Working in groups of between 2 and 4 members, identify an agricultural or land management-related problem that can be explored through research. Within your groups, discuss the following:

- title of the research;
- aim or purpose of the research;
- research question/s;
- research objectives;
- methodology (must be appropriate to spatial agricultural data); and
- significance of the research.

Each student is then required to summarise the key findings of the group discussions using a one-page research poster and submit via Moodle. The poster should be presented in an appropriate format (e.g. Word or pdf).

#### Assessment Due Date

Week 4 Friday (2 Apr 2021) 11:45 pm AEST

#### Return Date to Students

Vacation Week Monday (12 Apr 2021)

Assessments will be returned within 10 working days of the due date.

#### Weighting

Pass/Fail

### Assessment Criteria

This assessment is **Pass/Fail**.

The research poster will be assessed on:

- The content
- The structure and layout
- Grammar/spelling

**Further details and the marking rubric will be available on the Moodle page.**

### Referencing Style

- [Harvard \(author-date\)](#)

### Submission

Online

### Submission Instructions

Online via Moodle

### Learning Outcomes Assessed

- Develop appropriate research questions.

### Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Cross Cultural Competence
- Ethical practice

## 2 Assessment 2: Group Work

### Assessment Type

Group Work

### Task Description

This assessment will involve the design and undertaking of both qualitative and quantitative data analyses, use of statistical software and the application of GIS techniques. The assessment will focus on the agricultural or land management-related problem you identified in your Assessment 1. This assessment has two parts (group and individual components):

### Part A: Research Report (30%) - Group component

Working in groups of between 2 and 4 members:

- Develop a questionnaire to collect both qualitative and quantitative data.
- Conduct a survey to collect both qualitative and quantitative data using the questionnaire.
- Analyse the data.
- Write a research report of **2000 - 3000** words.

Suggested structure of the Research Report:

- Title page
- Executive Summary
- Table of Contents
- Introduction – *Background information, aims, and research objectives.*
- Literature Review
- Methodology – *Describe the methodology used to collect the data.*
- Results and Discussion – *Present and comment on the findings of the research. The results must show evidence of qualitative and quantitative data analyses, and the use of GIS techniques (e.g. map of the study area).*
- Conclusion/Recommendations
- References
- Appendix – *This must contain the questionnaire used to collect the data.*

Note: The word count excludes Table of Contents, List of References and Appendices. **Each group will submit one group report.** Questionnaire data should be collected from **at least 5 respondents**.

**Part B: Pre-recorded video (10%) - Individual component**

**Each student** is required to submit a 5-7 minute pre-recorded video focusing on the major highlights of the **Research Report** described in **Part A** above. Your video should include the following:

- Title
- Aims and research objectives
- Methodology
- Results and discussion
- Conclusions/recommendations

The video must show your image and presentation slides.

**Assessment Due Date**

Week 8 Friday (7 May 2021) 11:45 pm AEST

Part A - Group submits one group report; Part B - Each student submits own pre-recorded video.

**Return Date to Students**

Week 10 Friday (21 May 2021)

The assessment shall be returned 10 working days after the due date.

**Weighting**

40%

**Minimum mark or grade**

50%

**Assessment Criteria**

**Part A** (Research Report) will be assessed on:

- Content
- Structure
- Writing style
- Grammar/spelling
- Referencing (minimum of 5 references required)
- Number of words: 2000 - 3000

**Part B** (Pre-recorded video) will be assessed on:

- Content and layout
- Communication skills
- Time management

*Further details and the marking rubric will be available on the Moodle page.*

**Referencing Style**

- [Harvard \(author-date\)](#)

**Submission**

Online Group

**Submission Instructions**

Online via Moodle

**Learning Outcomes Assessed**

- Design and conduct a qualitative data analysis.
- Design and conduct a quantitative data analysis.
- Manage and manipulate data using statistical software packages.
- Demonstrate proficiency in integrating GIS data analysis with statistical analysis.

**Graduate Attributes**

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



- Cross Cultural Competence
- Ethical practice

### 3 Assessment 3: Written Assessment

#### Assessment Type

Written Assessment

#### Task Description

##### Journal Article

In this assessment, you will undertake data analysis using statistical methods and demonstrate your proficiency in integrating GIS data analysis with statistical analysis. You will be provided with sample data and the task requires you to prepare a (report in the format of a) research journal article.

In order to complete the article, you will need to:

- Develop an appropriate research question based on the data provided.
- Critically review relevant literature.
- Analyse the data using statistical and GIS techniques.
- Present results appropriately.
- Discuss key findings.

Suggested structure of the journal article:

- Abstract
- Introduction
- Methodology
- Results
- Discussion
- Conclusion
- References – use Harvard (author-date) referencing style.

#### Assessment Due Date

Week 12 Friday (4 June 2021) 11:45 pm AEST

#### Return Date to Students

Exam Week Friday (18 June 2021)

The assessment will be returned within 10 working days of its due date

#### Weighting

60%

#### Minimum mark or grade

50%

#### Assessment Criteria

Articles will be reviewed in the manner of a real journal submission and a full assessment rubric will be available on the unit Moodle site. Please note:

- The article will be assessed on content, data analysis, discussion, presentation and writing quality.
- The article should be coherent, have flow and all material sourced externally must be cited.
- Text should be word-processed, with appropriate layout and use of headings/sub-headings. Tables and figures to illustrate specific aspects may be included with titles and acknowledgement where necessary.
- Data should be clearly presented, e.g. numerical data must be tabulated.
- Figures and tables should be correctly labelled.
- There should be no typographical errors.
- Number of words: 2500 - 3000, excluding the Table of Contents, List of References and the Appendix (if any).
- The article should be submitted in an editable format (Microsoft Word format highly recommended).

*Further details on sources of data and the marking rubric will be available on the Moodle page.*

#### Referencing Style

- [Harvard \(author-date\)](#)

#### Submission

Online

**Submission Instructions**

Online via Moodle

**Learning Outcomes Assessed**

- Design and conduct a qualitative data analysis.
- Design and conduct a quantitative data analysis.
- Manage and manipulate data using statistical software packages.
- Demonstrate proficiency in integrating GIS data analysis with statistical analysis.

**Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

## 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