



AGRI13006 Data Management & Analysis for Agriculture

Term 1 - 2020

Profile information current as at 06/05/2024 05:18 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 - 2020

- Bundaberg
- Emerald
- 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. **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

Feedback

Long lectures/tutorials

Recommendation

More practical class activities will be introduced to break up long lectures/tutorials. Breaks will be provided at suitable intervals.

Feedback from Have Your Say

Feedback

Difficulty understanding the GIS software

Recommendation

Most students doing this unit have no prior experience with the GIS software. Additional support will be provided earlier in the term to help students learn the GIS software and use it for their assessments. Under the Bachelor of Agriculture rejuvenation, an introductory GIS unit will be delivered in second year (from 2021).

Feedback from Have Your Say

Feedback

Enjoyed qualitative research, data analysis using Excel, and mapping.

Recommendation

These are very important skills for an agricultural graduate. The delivery of these will continue, and additional relevant examples will be used.

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%		•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Alignment of Assessment Tasks to Graduate Attributes

[illegible]

Textbooks and Resources

Textbooks

There are no required textbooks.

Additional Textbook Information

N/A

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- 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

Schedule

Week 1 - 09 Mar 2020

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

Week 2 - 16 Mar 2020

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

Week 3 - 23 Mar 2020

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

Week 4 - 30 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to GIS software		

Week 5 - 06 Apr 2020

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

Vacation Week - 13 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Week 6 - 20 Apr 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Quantitative data analysis in agriculture		
Week 7 - 27 Apr 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Statistical packages for data management and analysis		
Week 8 - 04 May 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Introduction to data analysis in GIS software		Assessment 2: Group Work Due: Week 8 Friday (8 May 2020) 11:45 pm AEST
Week 9 - 11 May 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Data analysis in GIS software		
Week 10 - 18 May 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Integrating GIS data analysis with statistical analysis		
Week 11 - 25 May 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Data handling, storage and processing		
Week 12 - 01 Jun 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Unit Review		Assessment 3: Written Assessment Due: Week 12 Friday (5 June 2020) 12:00 am AEST
Review/Exam Week - 08 Jun 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Exam Week - 15 Jun 2020		
Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 Assessment 1: Group Discussion (Pass/Fail)

Assessment Type

Group Discussion

Task Description

This assessment will require you to participate in weekly online group discussion. Students will be organised into groups of 3-5 members. Students in each group will take turns in facilitating the weekly discussions via online Discussion Boards in Moodle. The schedule of the weekly facilitators of the discussions will be provided in Moodle by the Unit Coordinator. Students facilitating the discussions must outline an issue related to the previous week's topic and invite the rest of the group members to comment and discuss. The issues must be expressed succinctly (in 200-400 words). The facilitators should post on the Discussion Board by 5PM Tuesday of the allocated week. Students will draw on their knowledge, available literature and personal experience to respond to the issues raised in 200-400 words. The discussion boards will be monitored by the Unit Coordinator; however, facilitation is primarily the responsibility of the facilitating student.

Students must participate in at least 10 of the 12 discussions in order to pass this assessment.

Assessment Due Date

Weekly, ongoing

Return Date to Students

Feedback will be ongoing as the Unit Coordinator will participate in the discussion.

Weighting

Pass/Fail

Minimum mark or grade

This is a Pass/Fail assessment. You must participate in 10 out of 12 discussions in order to pass the Unit.

Assessment Criteria

This assessment is **Pass/Fail**.

Students will be assessed on:

- Participation (10/12 weeks minimum)
- Their ability to engage effectively with the discussion, including building on the thoughts of their peers
- Their ability to draw on academic literature and other sources

Referencing Style

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

Submission

Online

Submission Instructions

Students must post on Discussion Board in 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.

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 about 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.

Students will undertake a self and peer assessment to assess the contribution made by each group member towards the completion of this task. The group report and the self and peer assessment will be worth 75% and 25% of the total mark, respectively. The Self and Peer Assessment Form will be made available in Moodle.

Assessment Due Date

Week 8 Friday (8 May 2020) 11:45 pm AEST

Group submission

Return Date to Students

Week 10 Friday (22 May 2020)

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

Weighting

40%

Minimum mark or grade

50%

Assessment Criteria

The research report will be assessed on:

- Content
- Structure
- Writing style
- Grammar/spelling
- Referencing
- Number of words: 3000±10%

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**

As emerging agriculturalists, it is essential that you stay current with cutting edge research and relevant developments. In order to understand and/or work with researchers, it is crucial to have current knowledge of scientific processes. This requires you to know how to identify gaps in knowledge that can be addressed via new research inquiry, critically assess previous research, collect, manage, analyse and present data.

You will be provided with sample data and the task requires you to prepare a research journal article. *If you wish to collect your own data, please first discuss with your Unit Coordinator.*

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

- Develop an appropriate research question based on the data provided. *If you wish to collect your own data, please first discuss with your Unit Coordinator.*
- 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 (5 June 2020) 12:00 am AEST

Return Date to Students

Exam Week Monday (15 June 2020)

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, including the following criteria:

- The manuscript should be coherent, have flow and all material sourced externally must be cited in the correct format as indicated by the Journals author guidelines.
- 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).

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