



AGRI12013 Driving Productivity in Food Production Systems

Term 1 - 2024

Profile information current as at 17/05/2024 10:11 pm

All details in this unit profile for AGRI12013 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 a detailed understanding of what constitutes a food production system and the key drivers determining its productivity. You will study the environmental factors and management options driving farming outcomes and examine new and emerging trends and innovations aimed at increasing productivity and improving sustainability of major agricultural industries. Various agricultural strategies and practices will be discussed and external factors such as government policy, market trends and access to infrastructure affecting food production will be analysed. Analyses of case studies drawn from a range of crop and livestock production systems will develop your systems thinking ability.

Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 7

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 1 - 2024

- Bundaberg
- Emerald
- Mixed Mode
- 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).

Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:

Click here to see your [Residential School Timetable](#).

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 Test**

Weighting: 35%

2. **Research Assignment**

Weighting: 40%

3. **Report**

Weighting: 25%

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 SUTE

Feedback

Students found the practical session on measuring total phenolic compounds during the residential school exceptional, providing them with an opportunity to learn contemporary analytical techniques.

Recommendation

The teaching team will continue incorporating this practical component during the residential school.

Feedback from SUTE

Feedback

Students enjoyed the residential school overall but particularly the research project component.

Recommendation

A research project will be offered again within the residential school.

Unit Learning Outcomes

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

1. Analyse the main drivers of productivity in crop and livestock industries
2. Apply a scientific approach to solve problems of plant and animal productivity
3. Examine emerging global trends and innovations in various food production systems.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes		
	1	2	3
1 - Online Test - 35%	•		
2 - Research Assignment - 40%	•	•	
3 - Report - 25%		•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes		
	1	2	3
1 - Communication	•	•	•

Graduate Attributes	Learning Outcomes		
	1	2	3
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 Test - 35%	•		•	•		•		•		
2 - Research Assignment - 40%	•	•		•	•	•				
3 - Report - 25%	•		•	•						

Textbooks and Resources

Textbooks

There are no required textbooks.

IT Resources

You will need access to the following IT resources:

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

Referencing Style

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

Teaching Contacts

Mani Naiker Unit Coordinator
m.naiker@cqu.edu.au

Schedule

Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Agricultural Productivity		

Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Basic Principles of Livestock Nutrition		

Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Feeds and Supplements		

Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Grazing Management		Online Test (QUIZ 1) Due: Week 4 QUIZ 1 will open in week 4 on Wednesday, 27/03/2023, 5:00 AM and close on Friday, 29/03/2024, 11:45 PM AEST

Week 5 - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Crop Responses to Light and CO ₂		

Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Water as a Driver of Crop Productivity		

Week 7 - 22 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Crop Nutrition		

Week 8 - 29 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Crop Responses to Temperature and Temperature Extremes Residential School (Monday 29 April to Wednesday 1 May)		

Week 9 - 06 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Independent Learning		Online Test (QUIZ 2) Due: Week 9 QUIZ 2 will open in week 9 on Wednesday, 8/05/2024, 5:00 AM and close on Friday, 10/05/2024, 11:45 PM AEST

Week 10 - 13 May 2024		
Module/Topic	Chapter	Events and Submissions/Topic
Trends and Innovations		
Week 11 - 20 May 2024		
Module/Topic	Chapter	Events and Submissions/Topic
External Factors		Environmental Impacts on Plant Functioning and Productivity Due: Week 11 Friday (24 May 2024) 11:45 pm AEST
Week 12 - 27 May 2024		
Module/Topic	Chapter	Events and Submissions/Topic
Revision and Integration of Concepts		
Review/Exam Week - 03 Jun 2024		
Module/Topic	Chapter	Events and Submissions/Topic
		Trends and Innovations in Agricultural Production Systems Due: Review/Exam Week Friday (7 June 2024) 11:45 pm AEST
Exam Week - 10 Jun 2024		
Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

All lecture-related learning resources will be recorded and made available online. Additionally, please note that attendance at a three-day mandatory residential school in Rockhampton is required for all students.

Assessment Tasks

1 Online Quizzes

Assessment Type

Online Test

Task Description

You will have two online quizzes to assess your comprehension of the content covered in weeks 1 to 8. These quizzes will include various question types, such as multiple choice, true/false, and short answer, among others.

QUIZ 1 (15%) will cover the content covered in weeks 1 to 3.

QUIZ 2 (20%) will cover the content covered in weeks 4 to 8.

Assessment Due Date

QUIZ 1 will be available from Wednesday, 27/03/2024, 5:00 AM until Friday, 29/03/2024, 11:45 PM AEST during week 4.

QUIZ 2 will be accessible from Wednesday, 8/05/2024, 5:00 AM to Friday, 10/05/2024, 11:45 PM AEST in week 9.

Return Date to Students

QUIZ 1: Week 6 Friday, 19/04/2024, QUIZ 2: Week 10 Friday, 17/05/2024

Weighting

35%

Minimum mark or grade

50%

Assessment Criteria

- Multiple choice and true/false questions will be evaluated based on correctness.
- Short answer questions, will be assessed for correctness, accuracy, and conciseness.

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Analyse the main drivers of productivity in crop and livestock industries

Graduate Attributes

- Communication
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice

2 Environmental Impacts on Plant Functioning and Productivity

Assessment Type

Research Assignment

Task Description

For this assignment you will write up your practical work conducted during the residential school in the format of a small scientific research paper. During the residential school you will develop your own research question in relation to the effects of environmental stresses on plant functioning and productivity and collect the data to answer the question. For your write up, you will then analyze the data and present the results in figures as well as discuss the main findings incorporating relevant literature. Your paper will have 2000($\pm 10\%$) words with the following structure:

- Descriptive title (not included in the word count)
- Abstract (a maximum of 300 words)
- Introduction to the topic (~450 words)
- Research question and hypothesis (~100 words)
- Methods (~300 words)
- Results including figures and captions (~300 words)
- Discussion (~450 words)
- Conclusion (~100 words)
- References (not included in the word count)

Assessment Due Date

Week 11 Friday (24 May 2024) 11:45 pm AEST

Return Date to Students

Review/Exam Week Friday (7 June 2024)

Weighting

40%

Minimum mark or grade

50%

Assessment Criteria

- Ability to formulate a research question and hypothesis
- Appropriate collection, analysis, presentation and interpretation of data
- Demonstrated understanding and interpretation of plant functioning
- Professional presentation of the report including correct structure, referencing and keeping to word limit where needed
- Clarity of language including expression, spelling and grammar
- Appropriate use of relevant references

Referencing Style

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

Submission

Online

Submission Instructions

Upload assessment in WORD FORMAT by following the instructions on the Moodle site.

Learning Outcomes Assessed

- Analyse the main drivers of productivity in crop and livestock industries
- Apply a scientific approach to solve problems of plant and animal productivity

Graduate Attributes

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

3 Trends and Innovations in Agricultural Production Systems

Assessment Type

Report

Task Description

In this report you will (1) introduce an agricultural production system including a current challenge the system is facing and (2) describe in detail an innovation strategy that aims at eliminating the challenge. Your report will have 1000 ($\pm 10\%$) words with the following structure:

- Title (not included in the word count)
- Introduction of the production system including current challenge (~400 words)
- Innovation strategy that aims at eliminating the challenge (~500 words)
- Conclusion (~100 words)
- References (not included in the word count)

Assessment Due Date

Review/Exam Week Friday (7 June 2024) 11:45 pm AEST

Return Date to Students

Exam Week Friday (14 June 2024)

Weighting

25%

Minimum mark or grade

50%

Assessment Criteria

- Detail, accuracy and detail of the information provided
- Professional presentation of the report including correct structure, referencing and keeping to word limit
- Clarity of language including expression, spelling and grammar
- Appropriate use of relevant references

Referencing Style

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

Submission

Online

Submission Instructions

Upload assessment in WORD FORMAT by following the instructions on the Moodle site.

Learning Outcomes Assessed

- Apply a scientific approach to solve problems of plant and animal productivity
- Examine emerging global trends and innovations in various food production systems.

Graduate Attributes

- Communication
- Critical Thinking
- Information Literacy

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